INTERSECTION STUDY

U.S. Highway 11 at State Route 174/County Road 9 Springville, Alabama

Advance Planning, Programming, and Logical Engineering (APPLE) Program

Prepared for:

THE CITY OF SPRINGVILLE

ST. CLAIR COUNTY

THE REGIONAL PLANNING COMMISSION OF GREATER BIRMINGHAM

Prepared by:

SKIPPER CONSULTING INC.

September 6, 2019

INTERSECTION STUDY

U.S. Highway 11 at State Route 174/County Road 9
Springville, Alabama

Advance Planning, Programming, and Logical Engineering (APPLE) Program

Prepared for:

The City of Springville
160 Walker Drive
Springville, Alabama 35146

St. Clair County
1815 Cogswell Avenue
Pell City, Alabama 35125

The Regional Planning Commission of Greater Birmingham
2 20th Street North, Suite 1200
Birmingham, Alabama 35203

Prepared by:

Skipper Consulting, Inc.
3644 Vann Road, Suite 100
Birmingham, Alabama 35235

September 6, 2019

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

SECTION A. PROPOSED PROJECT IMPROVEMENTS

The proposed project would construct left turn lanes and install a traffic signal at the intersection of U.S. Highway 11 (Main Street) at State Route 174 (Marietta Road)/County Road 9 (Murphrees Valley Road) in the City of Springville. The location of the project with respect to area roadway network is shown in Figure 1, below.

Figure 1. Project Location Map

Project Limits

The limits of the project extend as follows:

- Approximately 330 feet south of the intersection on U.S. Highway 11
- Approximately 305 feet north of the intersection on U.S. Highway 11
- Approximately 315 feet east of the intersection on State Route 174
- Approximately 360 feet west of the intersection on County Road 9

Existing Traffic Conditions

The existing intersection is controlled by a four-way stop and has no dedicated turn lanes. Traffic conditions during the a.m. and p.m. peak periods are characterized by long queues, significant delay, and poor levels of service. Traffic is influenced by commuter traffic destined for Interstate 59 and traffic generated by three schools located north of the intersection on U.S. Highway 11.

The locale in the vicinity of the intersection includes commercial land uses to the north and east of the intersection and residential land uses to the south and west of the intersection. Several commercial and residential driveways fall within the limits of the proposed project. One local public roadway intersects U.S. Highway 11 within the project limits (Aderholt Road), approximately 250 feet north of the intersection. Another local public roadway intersects County Road 9 at the edge of the project limits (Spring Street).

Functional Classification

U.S. Highway 11, State Route 174, and County Road 9 are all classified as "Major Collector" roadways by the Alabama Department of Transportation. An excerpt from the St. Clair County Functional Classification Map is shown in Figure 2, below.

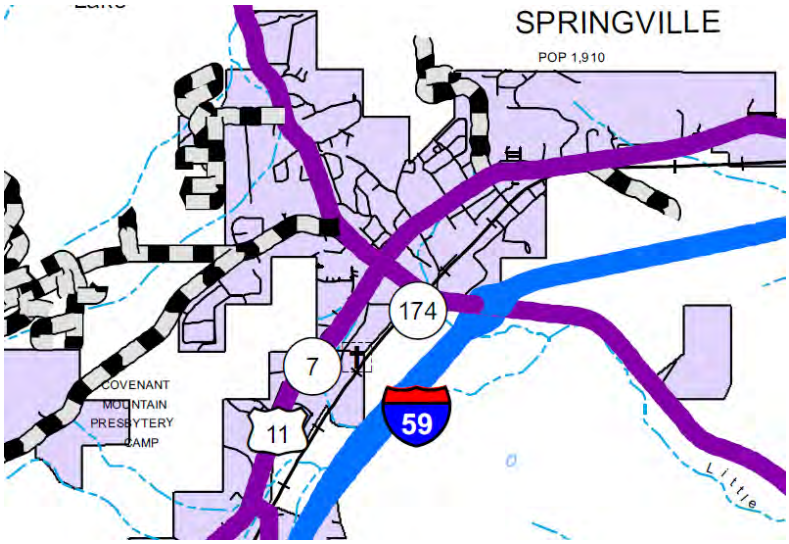


Figure 2. Functional Classification Map

Railroads

An active at-grade public rail-highway grade crossing is located on State Route 174 approximately 1,300 feet to the east of the intersection. The crossing is Norfolk-Southern crossing #725353S. The crossing consists of one mainline track and is actively controlled by lights, bells, and gates. The estimated daily train movements at the crossing as reported in the Federal Railroad Administration database are as follows:

- 6 through trains (6:00 a.m. to 6:00 p.m.)
- 6 through trains (6:00 p.m. to 6:00 a.m.)
- 4 switching trains
- No passenger trains

The maximum timetable speed for trains at the crossing is 50 miles per hour. Four crashes have been reported at this rail-highway grade crossing since 1983.

The existing rail-highway grade crossing is outside of the project limits and does not impact traffic at the project intersection. Spacing and queue both indicate no need for preemption of the proposed traffic signal for the rail-highway grade crossing. It is assumed that there will be no railroad coordination required for the proposed project.

SECTION B. PUBLIC BENEFITS

Traffic Benefits

The primary public benefit anticipated to be derived from the proposed project includes improvement in level of service, reduction in vehicle delay, and reduction in vehicle queues. The calculated improvements for each of these measures of effectiveness are summarized in Table 1, on the following page. Table 1 compares existing conditions (with the four-way stop), to conditions with the proposed left turn lanes and traffic signal under existing traffic volumes, to conditions with projected traffic in the year 2028 with the proposed left turn lanes and traffic signal.

As shown in Table 1, the existing intersection currently operates with several movements at levels of service "E" and "F", and queues extend 1,200 to 1,400 feet back from the intersection on the busiest approach during the a.m. and p.m. peak hour. The proposed project will result in all approaches to the intersection operating at a level of service "C" or better for existing traffic and a level of service "D" or better for projected traffic conditions in the year 2028.

Table 1. Intersection Measures of Effectiveness

	Level of Service Delay (average per vehicle) Queue Length (95th percentile)					
	Existing		***Existing with Turn Lanes and Traffic Signal***		***Future 2028 with Turn Lanes and Traffic Signal***	
Approach	***AM***	***PM***	***AM***	***PM***	***AM***	***PM***
US-11 Northbound	E 39 secs. 445 feet	D 31 secs. 245 feet	C 23 secs. 225 feet	C 21 secs. 140 feet	D 38 secs. 380 feet	D 43 secs. 220 feet
US-11 Southbound	E 47 secs. 235 feet	D 32 secs. 440 feet	B 14 secs. 120 feet	C 24 secs. 175 feet	C 25 secs. 200 feet	D 51 secs. 615 feet
CR-9 Eastbound	F 75 secs 1,170 feet	D 28 secs. 210 feet	C 29 secs. 255 feet	B 15 secs. 115 feet	C 32 secs. 705 feet	C 26 secs. 275 feet
SR-174 Westbound	C 25 secs. 130 feet	E 41 secs. 1,370 feet	C 22 secs. 180 feet	C 23 secs. 235 feet	C 29 secs. 270 feet	D 50 secs. 980 feet
Overall Intersection	***n/a***	***n/a***	***C 22 secs.***	***C 21 secs.***	***C 31 secs.***	***D 42 secs.***

Economic Benefits

A significant volume of the traffic which circulates within the City of Springville or commutes through the City of Springville utilizes the intersection of US-11/SR-174/CR-9 during the trip due to limitations in the roadway network of the City. The population of the City of Springville remained fairly consistent with low growth through 1970, and during this time period the intersection presented no special traffic difficulties. Since, 1970, however, the population has been increasing at rates approaching +4% every ten years, so that the population of 1,153 in 1970 had increased to 4,080 by 2010. Furthermore, traffic has shown an even greater rate of increase. Between 2007 and 2016, traffic increased on US-11 by almost 50% (3,680

vehicles per day in 2007 to 5,370 vehicles per day in 2016). The impacts of continued population and traffic growth are experienced keenly at the intersection of US-11/SR-174/CR-9.

The City of Springville lies on the cusp of even greater economic growth. The proximity to Birmingham, access to Interstate 59, numerous parcels of developable land, and an outstanding school system have all worked together to fashion the City of Springville as an attractive location to both live and, to a lesser extent, work and shop. The City has recently approved construction of approximately 650 homes off of County Road 9. The vast majority of traffic generated by these new homes will traverse the intersection of US-11/SR-174/CR-9 on their daily commute and other trips. An automobile dealership has recently announced construction on property near the interchange of SR-174 and Interstate 59. All this information is presented to show that the quality of service provided by the intersection of US-11/SR-174/CR-9 has a direct bearing and impact on the economic viability of the City of Springville.

Public Safety Benefits

The intersection also functions as a key hub for trips made by public safety and emergency services providers in the City of Springville. The City of Springville Police Department headquarters and Springville Fire Station #1 are both located just south of the intersection of US-11/SR-174/CR-9 off of U.S. Highway 11. The majority of the City Limits of the City of Springville lie on the far side of the intersection from these two facilities. Improvements to the delay and queues at the intersection will mean faster response time for emergency services providers.

Stability Benefits

While this project is within the City Limits of the City of Springville, the roadways being improved are U.S. and State highways on three of the four legs of the intersection. The project is deemed a project of "local interest", in that the Alabama Department of Transportation has no current plans to address the capacity deficiencies at the intersection. ALDOT had, at one time, advanced a project to improve State Route 174 from Interstate 59 to U.S. Highway 11, but this project is unfunded and not being pursued at this time. Since the majority of work to be performed improves roadways on the State highway system, this project tends to provide benefit to the State by providing an increased service lifetime for the State roadway system. This comes with the fact that the City of Springville intends to be a major financial partner in the improvements which benefit both the State and the City.

SECTION C. PRELIMINARY ENGINEERING

Previous RPCGB APPLE Study

The City of Springville has previously performed a detailed study of the intersection of US-11/SR-174/CR-9 utilizing a grant from the Regional Planning Commission of Greater Birmingham (RPCGB) through their APPLE Study program. This report was completed in December, 2018, for a corridor consisting of SR-174 from Interstate 59 to US-11 and CR-9 from US-11 to CR-32. This, of course, included detailed analysis and design efforts for the intersection of US-11/SR-174/CR-9. The following work tasks were performed related to the intersection as part of the previous APPLE study:

- Traffic counts
- Traffic projections to the year 2028
- Traffic analyses, included level of service, delay, and queues

- Traffic signal warrant analysis
- Development of recommended improvements
- Detailed topographic survey
- Preparation of conceptual improvement drawings, including utilities and drainage
- Development of a cost estimate for preliminary engineering, utility relocations, construction, and construction engineering and inspection (CE&I)

This second APPLE study for the intersection was performed to provide more detail concerning utilities, drainage, right-of-way requirements, and cultural and environmental impacts.

Coordination with ALDOT

The City and Springville, the RPCGB, and the Consulting team performing the APPLE study have had several points of interaction with ALDOT concerning the proposed project. This includes both submission of the first APPLE study report to ALDOT for review and meeting with ALDOT personnel. The following is a general calendar of events where the City, RPCGB, and Consultants have interacted with ALDOT concerning the proposed project:

- Tuesday, October 10, 2018 – submittal of draft APPLE study report to ALDOT East Central Region
- Wednesday, May 1, 2019 – meeting with East Central Region staff
- Thursday, May 2, 2019 – submittal of final APPLE study report to ALDOT Birmingham Area
- Thursday, June 27, 2019 – meeting with Director John Cooper and East Central Region staff

SECTION D. CULTURAL AND ENVIRONMENTAL RESOURCES

As part of the second APPLE grant from the Regional Planning Commission of Greater Birmingham, the City of Springville has completed a preliminary environmental review for the proposed project. The work was prepared by Barge Design Solutions, and a separate report was issued in September, 2019. The following sections of this report are relevant information extracted from the Barge preliminary environmental report.

Potential NEPA Document

If a NEPA review is required, the actions included in the scope of the proposed project would likely qualify as categorical exclusions (CEs). CEs are actions which meet the definition contained in 40 CFR 1508.4, and, based on past experience with similar actions, do not involve significant environmental impacts. They are actions which do not induce significant impacts to planned growth or land use for the area; do not require the relocation of significant numbers of people; do not have a significant impact on any natural, cultural, recreational, historic, or other resource; do not involve significant air, noise, or water quality impacts; do not have significant impacts on travel patterns; or do not otherwise, either individually or cumulatively, have any significant environmental impacts.

To determine a project's potential benefit or harm to the environment, NEPA requires an assessment of environmental impacts and an evaluation of alternatives to avoid any identified adverse impacts to the environment. When considering categorically excluded actions, the alternatives analysis is often limited to the proposed activities and the no-build alternative.

National Register of Historic Places

Authorized by the NHPA, the National Register serves as the official list of historic places within the United States that have been determined to be worthy of preservation by the National Park Service. The National Register includes public and private properties and woks to coordinate and support efforts to identify, evaluate, and protect historic and archeological resources.

Eligibility for inclusion on the National Register is dependent on meeting at least one of the four National Register main criteria:

- Criterion A: "Event", the property must make a contribution to the major pattern of American history.
- Criterion B: "Person", is associated with significant people of the American past.
- Criterion C: "Design/Construction", concerns the distinctive characteristics of the building by its architecture and construction, including having great artistic value or being the work of a master.
- Criterion D: "Information potential", is satisfied if the property has yielded or may be likely to yield information important to prehistory or history.

The immediate project area falls within the National Register listed Springville Historic District, with the nearby Presley Store approximately 1,400 linear feet northeast of the US-11 and SR-174 intersection. A map of the historic district in the vicinity of the proposed project is provided in Figure 3.

Figure 3. Springville Historic District

The Springville Historic District was listed on the National Register in 1997 and included an assessment of 195 individual resources, 145 of which were originally determined to be contributing to the District. Within the nomination form, the Springville Historic District is noted for its late Victorian, Queen Anne, and commercial architecture with a period of significance from 1853 to 1947. US-11 serves as the heart of the Springville Historic District and is made up primarily of commercial structures and late Victorian homes. Residential neighborhoods historically developed around this nucleus. As included in the Springville Historic District's nomination form, Criteria A and C qualified the area for inclusion on the National Register. For Criterion A, significance was related to the social and commercial development of Springville from the Reconstruction era following the Civil War to post World War II construction. Criterion C eligibility is related to its architecture which documents each phase of Springville's physical development prior to its incorporation in 1880. In addition to this, a wide variety of late 19th and early 20th century architecture is available within the area and contributes to the Springville Historic District.

Section 4(f)

Section 4(f) of the Department of Transportation Act (DOT) of 1966 provides for the consideration and preservation of park and recreation lands, wildlife refuges, and historic sites during development of U.S. DOT projects. Section 4(f) requires FHWA to avoid the use of historic sites and prevents the use of these properties for transportation purposes. If no prudent and feasible alternative exists that avoids the use, FHWA must employ all possible planning to minimize harm to Section 4(f) resources resulting from use of the properties by the project.

If ROW is acquired from any portion of the Historic District, a review of the project to determine if it qualifies as a use of the Section 4(f) property may be required. If it is determined that the project will have a de minimis impact of the Section 4(f) property, no additional feasibility analysis or prudent avoidance alternatives would be required. If a de minimis determination cannot be made, it must determined there is no feasible and prudent alternative prior to approval of the project.

Archeological Resources

There are no known local or state regulatory requirements for considering the potential impact of architectural resources by non-federally funded projects. However, Alabama has several laws that cover archaeological resources within the state. In general, the AHC is responsible for implementing and enforcing these laws. The Alabama Code (Title 41, Chapter 3) covers Aboriginal Mounds, Earthworks, and Other Antiquities and governs the rights of the state and its residents to explore or excavate prehistoric archaeological sites. It applies to both state-owned and private lands within Alabama and essentially prohibits the exploration or excavation of aboriginal mounds, earthworks, or antiquities except on private land with the permission of the landowner.

Human burials and cemeteries are also regulated by state statutes. These include the Alabama Cemetery and Human Remains Protection Act (as amended through 1993) and the AHC Code Chapter 460-X-10. The AHC is responsible for issuing permits for the excavation, relocation, and/or restoration of cemeteries and human remains.

While the aforementioned state statutes would apply to the project regardless of funding source, it is not likely the proposed project would encounter any archaeological resources or human burial sites due to the historic development and disturbance of the project area and existing roadway ROW.

Streams and Wetlands

A review of data available through the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) shows a linear aquatic feature running roughly along Murphrees Valley Road within a portion of the project area (see Figure 4); however, roadway and commercial and residential development in the area have likely diminished the natural drainage patterns of the area. As discussed in the following section, a site visit by a qualified hydrologic professional would determine if the U.S. Army Corps of Engineers (USACE) or the Alabama Department of Environmental Management (ADEM) would have jurisdiction of any aquatic features that could potentially be impacted by the proposed project.

Figure 4. Streams

A jurisdictional determination (JD) is a procedure for identifying and locating jurisdictional waters that are regulated by USACE. JDs include a two-step process – locating the features (wetlands and streams) within the project area and determining whether those areas are subject to regulation by the USACE. The Applicant may request either a Preliminary JD (PJD) or Approved JD (AJD). A PJD finds that there "may be" waters of the United States and/or that there "may be" navigable waters of the United States within the project area and identifies all aquatic features in the review area that could be affected by the proposed activity. An AJD is an official determination whether USACE jurisdiction exists over the identified aquatic resources.

Threatened and Endangered Species

Review of current information in the public domain indicates that no endangered species have been recorded within one mile of the project area. The USFWS Information for Planning and Consultation (IPaC) Trust Resource website was evaluated for protected species that may be present within the project area. The IPaC identified three mammals, one flowering plant, and eight clams that are federally listed endangered and threatened species with potential to occur within the project area. No critical habitat for any species has been identified near the project area.

Floodplains

Based on a review of Panel 113 of 500, Map No. 01115C0113G of the St. Clair County, Alabama, Flood Insurance Rate Map (FIRM) (see Figure 5), the project would be located outside the 100-year floodplain, which would be consistent with EO 11988. The proposed project would result in no significant impacts on the natural and beneficial values of floodplains and would not result in needed revisions to the FIRM either through a Conditional Letter of Map Revision (CLOMR) or Letter of map Revision (LOMR).

Figure 5. Flood Insurance Rate Map

Hazardous Materials

A list of underground storage tank (UST) facilities available through ADEM was reviewed. While results show two known USTs reported at addresses within or near the project area, ROW in the vicinity of these USTs is not likely needed to accomplish the proposed project. Impacts related to the presence of hazardous materials are not likely; however, if it is determined ROW is needed for the proposed activities, further investigation of potential Recognized Environmental Conditions may be needed.

Air Quality

St. Clair County is in attainment status for all criteria pollutants, and no proposed construction activities for this project should require specific review or permitting for air emissions. No new construction or conversion of land use facilitating the development of significant public, commercial, or industrial facilities, or of dwelling units, is proposed for this project, limiting the potential for impacts to air quality and greenhouse gas production.

Noise

In accordance with ALDOT's Highway Traffic Noise Analysis and Abatement Policy and Guidance, the proposed project would qualify as a Type III project. No significant impacts are anticipated for this project, and it would not require a noise analysis.

Clean Water Act

Based on the existing site conditions, it appears there is one potential jurisdictional feature, the heavily impacted channel along Murphrees Valley Road. If no other features are identified and the USACE does not take jurisdiction over the feature, it is unlikely a permit will be needed for the proposed project. However, if the USACE does take jurisdiction over the channel along Murphrees Valley Road and the proposed impact is over 300 linear feet, it is likely an Individual Permit will be required from USACE and ADEM and mitigation would be needed.

The state has not adopted its own legislation or guidelines regarding compensatory mitigation for wetlands and generally defers to the USACE for wetland-related mitigation. Mitigation in the form of the purchase of credits are available from the private commercial Canoe Creek Mitigation Bank (HUC 03150106). As indicated on the Regulatory In lieu fee and Bank Information Tracking System (RIBITS), there are 48.46 available wetland credits (bottomland Hardwood classification), and 19,959.77 stream credits available.

Conclusion

While a NEPA evaluation is conducted in efforts to avoid, minimize, and mitigate impacts to the environment, the proposed activities would likely be categorically excluded and would require minimal review by and coordination with regulatory agencies. Preliminary review of potential impacts related to the development of the proposed project indicate these are likely to be minor impacts and would have minimal effect on the environment. The main potential risk to project schedule is related to work within the Springville Historic District. A Section 106 review, required with the use of federal funds or approval, would require an effects assessment to be conducted by a qualified historic preservation professional. In addition, the use of FHWA funds could trigger a review under Section 4(f) of the DOT Act, posing additional schedule risk. If federal funds are applied to the project, it is recommended that all work be limited to existing roadway, avoiding a Section 4(f) use of a historic property and subsequent review.

SECTION E. EXISTING BRIDGES

There are no existing bridges within the limits of the proposed project. There is an existing box culvert which is located crossing under US-11 on the north side of the intersection.

SECTION F. PROPOSED BRIDGES

There are no existing or new bridges, or bridge culverts (over 12 foot span) associated with the project, however there is a large conveyance planned for the north side of County Road 9. Currently there is an existing 7'X4' concrete box culvert that drains from the south side of CR 9 to the north side of CR 9 and discharges into an open channel ditch section. From there the ditch flows parallel to CR 9, eastward to the intersection of US Hwy 11 where it enters into two 6'X3" box culverts. Approximately 190 LF downstream the two 6'x3' box culverts transition to a single 10'X4' concrete box culvert.

The plan calls for a new culvert to be extended between the outfall of the 7'X4' Culvert and the entrance to the two 6'X3' culverts. This will be accomplished by constructing cast in place concrete structures at each end of the new culvert in order to transition between the existing and new culvert dimensions. The structure at the intersection of CR 9 and US 11 will be considerably larger than the upstream structure due to the need to incorporate a horizontal offset in the culvert alignment in order to keep the culvert within the limits of the existing right of way.

All three of the culverts have been evaluated for their capacity to convey the 50 year flow. The capacity of the existing upstream 7'X4' culvert is approximately 534 CFS, the capacity of the existing downstream double 6'X3' culverts is 660 CFS and the capacity of the downstream 10'X4' is 954 CFS. The capacity of the new double 6'X3' culverts is 352 CFS.

The drainage area contributing to the culvert system is 0.192 square miles, of which approximately 17 percent is considered urban development. A peak flow analysis of this basin results in a total flow to the uppermost culvert of 337 CFS for a 50 year design storm.

Therefore, the two new 6'X3' concrete box culverts are considered adequate to convey the drainage flows generated in the existing conditions for the 50 year storm.

SECTION G. RIGHT-OF-WAY

The project is intended to be constructed within the existing right-of-way, insofar as possible. The project limits were established in order to avoid areas of probable right-of-way acquisitions, particularly on US-11 north of the intersection. However, right-of-way is constricted in much of the project area, and minimal acquisition of right-of-way is anticipated to be required, but has not yet been specifically identified. Additionally, it is also anticipated that acquisition of temporary construction easements to tie existing driveways and cross slopes into the project will also be required. A preliminary designation of temporary construction easements is shown in the conceptual plans located at the end of this report.

SECTION H. COST ESTIMATE

A detailed cost estimate for the project was prepared using ALDOT pay items. This cost estimate is included in table at the end of this report. The following is a summary of the cost estimate:

Construction	$2,565,000
Utility Relocation Cost	$ 230,700
Preliminary Engineering	$ 436,800
Right-of-Way Acquisition	$ 50,000
Construction Engineering and Inspection	$ 346,600
Total	$3,629,100

SECTION I. TRAFFIC DATA

Traffic Counts

Extensive traffic data for the proposed project was collected as part of the first APPLE study during May, 2018. This included the following counts:

- 24 hour intersection approach counts – Table 2
- a.m. and p.m. peak hour turning movement traffic counts – Figure 6

In addition, intersection turning movement traffic counts were projected forward to the year 2028 based on historical traffic growth and the traffic impacts of known developments, particularly a 650 home development located off of County Road 9. The projected 2028 peak hour turning movement traffic counts are shown in Figure 7.

Truck Traffic Percentages

Existing truck percentages were taken from the ALDOT website, and are as follows:

- U.S. Highway 11 south of State Route 174
  - T_{ADT} = 3%
  - T_{DHV} = 4%
- U.S. Highway 11 north of State Route 174
  - T_{ADT} = 3%
  - T_{DHV} = 4%

- State Route 174 east of U.S. Highway 11
  - T_{ADT} = 4%
  - T_{DHV} = 6%

Table 2. Intersection Approach Traffic Counts

Hour	Main Street (US-11) Northbound	Main Street (US-11) Southbound	Main Street (US-11) Total	Murphrees Valley Road Eastbound	Marietta Road (SR-174) Westbound
12-1 AM	12	10	22	7	21
1-2 AM	5	6	11	7	13
2-3 AM	4	4	8	8	4
3-4 AM	4	7	11	19	5
4-5 AM	8	31	39	70	8
5-6 AM	28	86	114	225	40
6-7 AM	93	182	275	417	92
7-8 AM	293	477	770	503	205
8-9 AM	143	253	396	265	169
9-10 AM	199	212	411	247	134
10-11 AM	193	204	397	188	146
11-12 PM	208	221	429	213	180
12-1 PM	180	265	445	232	211
1-2 PM	211	251	462	202	233
2-3 PM	293	245	538	240	261
3-4 PM	305	557	862	250	326
4-5 PM	393	463	856	236	488
5-6 PM	479	447	926	291	522
6-7 PM	430	510	940	255	508
7-8 PM	171	286	457	296	237
8-9 PM	108	176	284	222	170
9-10 PM	70	75	145	108	121
10-11 PM	30	26	56	36	58
11-12 AM	17	17	34	16	37
Total	***3877***	***5011***	***8888***	***4553***	***4189***

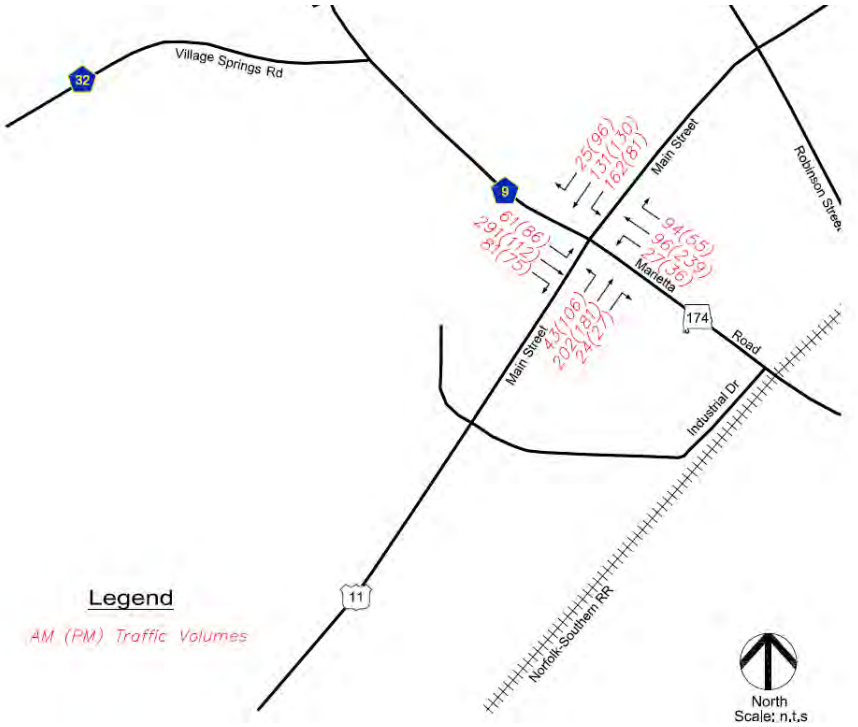


Figure 6. Existing Peak Hour Turning Movement Traffic Counts

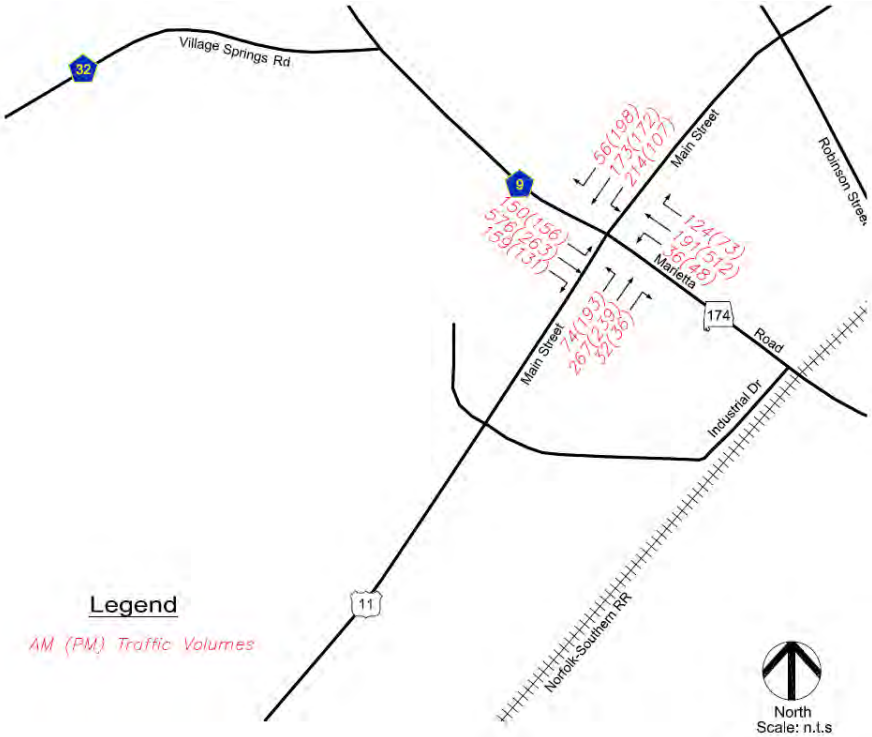


Figure 7. Future 2028 Projected Peak Hour Turning Movement Traffic Volumes

SECTION J. CRASH DATA

Crash data for the intersection of US-11/SR-174/CR-9 was obtained from the City of Springville Police Department for calendar years 2015, 2016, 2017, and 2018 (through May 18, 2018). During this period, there were ten (10) reported crashes at the intersection. The number of crashes per year is as follows:

- 2015 – 3
- 2016 – 3
- 2017 – 3
- 2018 (partial) – 1

The extent of damage/injuries/fatalities for the crashes is as follows:

- Property damage only – 8
- Injuries – 2 (in 2 crashes)
- Fatalities – 0

The type/cause of each crash is as follows:

- Right angle crash/Failure to Yield ROW – 5
- Rear End - 3
- Run-off-the-Road – 2

SECTION K. TRAFFIC SIGNALS

Traffic Signal Warrant Analysis

The intersection of US-11/SR-174/CR-9 is currently controlled by a four way stop. The proposed project includes installation of a traffic signal. A traffic signal warrant study was performed for the proposed traffic signal as part of the APPLE study. The traffic signal warrant analysis was performed using the method of analysis required in the FHWA 2009 Manual on Uniform Traffic Control Devices. The approach traffic volumes at the intersection were modified to include an analysis of the reduction of side-street right turn traffic volumes according to the methodology required in the Alabama Department of Transportation *Traffic Signal Design Guide and Timing Manual*. The results of the traffic signal warrant analysis is summarized in Table 3. As shown, a traffic signal is currently warranted at the intersection of US-11/SR-174/CR-9 under MUTCD warrants 1A and 2.

Table 3. Traffic Signal Warrant Analysis Summary

Warrant #	Warrant	Warranting Volumes	Hours Required	Hours Met	Warrant Satisfied?
1A	Minimum Vehicular Volume	350 Main 105 Side	8	13	Yes
1B	Interruption of Continuous Traffic	525 Main 53 Side	8	6	No
2	Four Hour Vehicular Volume	As per graph	4	14	Yes

SECTION L. RACIAL AND ETHNIC DIVERSITY COORDINATION

The City of Springville has a long history of promoting, protecting and ensuring equal opportunities to and for all persons regardless of race or ethnicity. As a single example of this larger truth, for decades, the City has maintained seven (7) individual council districts in lieu of five (5) so as to promote (successfully) minority representation within its City government. Ensuring racial and ethnic diversity and fostering a spirit of unity and cooperation amongst all citizens regardless of race, gender, age, ethnicity or religious affiliation is of utmost importance to the City and its leaders.

Public Involvement

As related to the proposed project in particular, the first APPLE study as previously represented in this report was vetted during City Council meetings open to the public at large, and attended by the entire City Council, including the City Council member elected from the aforementioned City Council district. These public meetings were held on:

- Wednesday, May 30, 2018
- Wednesday, June 13, 2018
- Monday, September 10, 2018
- Monday, October 15, 2018

SECTION M. PROJECT LIFE EXPECTANCY

Project Lifecycle Analysis

As shown in a previous section of this report, the potential improvements proposed for the intersection of US-11/SR-174/CR-9 result in no failures in level of service for future year 2028 traffic volumes. An analysis was performed to determine how many years of service could be obtained from the potential improvements. The analysis was performed year-by-year, beginning in the year 2029. Traffic growth was assumed to be +3.2% per year and all 650 homes were assumed to be constructed in the Village Springs PUD development, located off of CR-9. The results of the analysis showed that the potential improvements would provide operation with all levels of service being “E” or better for three (3) more years, or through the year 2031. The intersection with the potential improvements would be expected to experience failing levels of service (level of service “F”) in the 2032.

Maintenance Responsibility

Three of the four legs of the intersection of US-11/SR-174/CR-9 are State of Alabama maintained roadways. However, more specifically, both US-11 and SR-174 are "municipal connecting link" roadways, as indicated in Figure 8. This means that the Alabama Department of Transportation is responsible for maintenance of the roadway within the limits established by State law, which reads as follows:

> *"State maintenance of a city or town street traversed by a state maintained highway route shall not extend beyond the back of the curb where a curb and gutter section exists and not beyond the back or roadway ditch or the toe of fill slope where no curb and gutter is in place except as necessary in the placing and maintaining of highway markers, etc."*

Therefore, for US-11 and SR-174, ALDOT is responsible for maintenance of the pavement, curb and gutter, or ditch section, and the City of Springville is responsible for maintenance of everything else from back of curb or back of ditch to the right-of-way line.

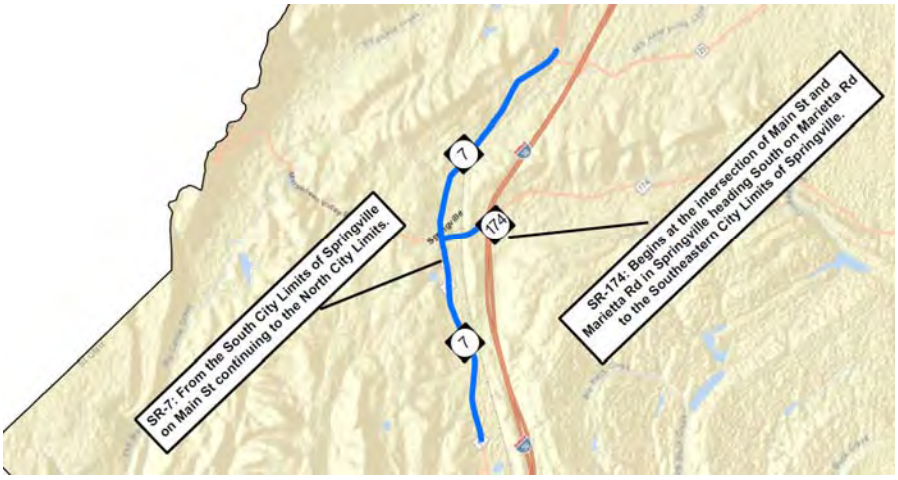


Figure 8. Municipal Connecting Link Roadways

County Road 9 (Murphrees Valley Road) is a St. Clair County roadway, and, as such, is maintained by St. Clair County.

The proposed project included installation of a traffic signal. This traffic signal would be maintained by the City of Springville under permit from the Alabama Department of Transportation.

SECTION N. ADDITIONAL INFORMATION

Utility Relocations

The proposed project will require some relocation of utilities. The estimated budget for utility relocations is $236,700. The following paragraphs provide a discussion of utilities within he project area.

Sanitary Sewer – Sanitary sewer systems exist in all legs of the intersection being improved. CCI has met with the City of Springville and determined that they are agreeable to the existing sewer systems remaining in place beneath the existing and new widened sections of the roadway. Furthermore, considering that US Hwy 11 and SR74 are both classified as Municipal Connecting Links, the utilities are

allowed to be located beneath the roadway. Sanitary sewer construction will therefore be limited to adjusting existing manhole lids to grade.

Water Mains – Water systems exist in all legs of the intersection being improved. CCI has met with the City of Springville and determined that they are agreeable to the existing water systems remaining in place beneath the existing and new widened sections of the roadway. Furthermore, considering that US Hwy 11 and SR74 are both classified as Municipal Connecting Links, the utilities are allowed to be located beneath the roadway. Water system construction will therefore be limited to adjusting of existing water services including resetting water meters, adjusting valve boxes to grade and lowering of water lines at gravity storm sewer crossings.

Gas Mains – Natural gas infrastructure exists along all legs of the intersection to be improved. There is a 2 inch steel gas line running along the north side of CR 9 that will be displaced by the new box culvert construction. There is a 4 inch plastic gas main running along the west side of US 11 that will be displaced by the retaining wall construction. There are multiple gas lines at the intersection of US11/SR174/CR 9 that will require lowering gas lines at gravity storm sewer crossings.

Overhead Power – There are existing APCO overhead power facilities running along all legs of the intersection being improved. Based on a review of these facilities, it appears that only three power poles at the northwest quadrant of the US 11/ CR 9 intersection will be required to be relocated. Due to the limited width of right of way in this area a minor amount of additional right of way will be required to accommodate the power pole relocation. The cost of this right of way is included in the Alabama power Company cost estimate provided for the required relocations.

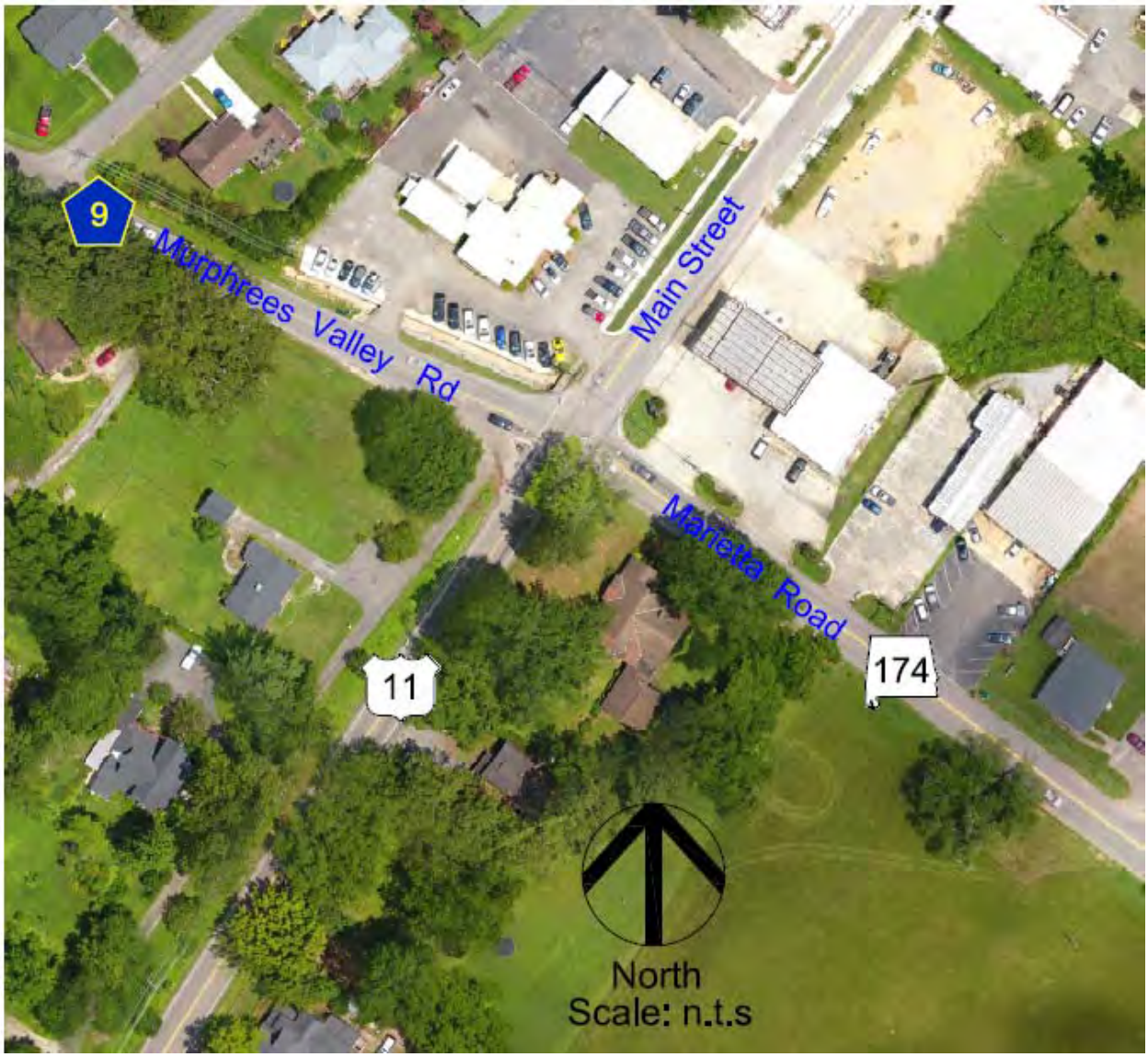
Overhead Communications – There are existing Windstream communications lines running along multiple legs of the intersection being improved. These are all located on Windstream owned poles and none will require relocation. There is one service line pole at the southwest quadrant of the intersection that will be removed, and the service refed from a different direction.

Overhead Cable Television – There are existing Charter cable tv lines running on all legs of the intersection being improved. Based on a review of these facilities, it appears the only facilities that will be affected are the ones mounted to the three APCO poles that require relocation. Charter will relocate their facilities to these new poles once placed by APCO.

SECTION O. PHOTOGRAPHS, MAPS, DRAWINGS, AND PLANS

The following pages of this report present the following information:

- An aerial photograph of the intersection of US-11/SR-174/CR-9 and vicinity
- Photographs of each approach to the intersection of US-11/SR-174/CR-9
- Conceptual plan sheets, including the following:
    - Aerial image with improvements
    - Lane widening improvements
    - Storm sewer plan sheets
    - Utility plan sheets
    - Cross sections
- Detailed Cost Estimate



Aerial Photograph of the Intersection of US-11/SR-174/CR-9

U.S. Highway 11 (Main Street) Northbound approaching State Route 174

U.S. Highway 11 (Main Street) Southbound approaching State Route 174

County Road 9 (Murphrees Valley Road) Eastbound approaching U.S. Highway 11

State Route 174 (Marietta Road) Westbound approaching U.S. Highway 11

PRINTED: $DATE$ $TIME$ PATH+ $FILE$

AERIAL IMAGE WITH IMPROVEMENTS

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

City of Springville

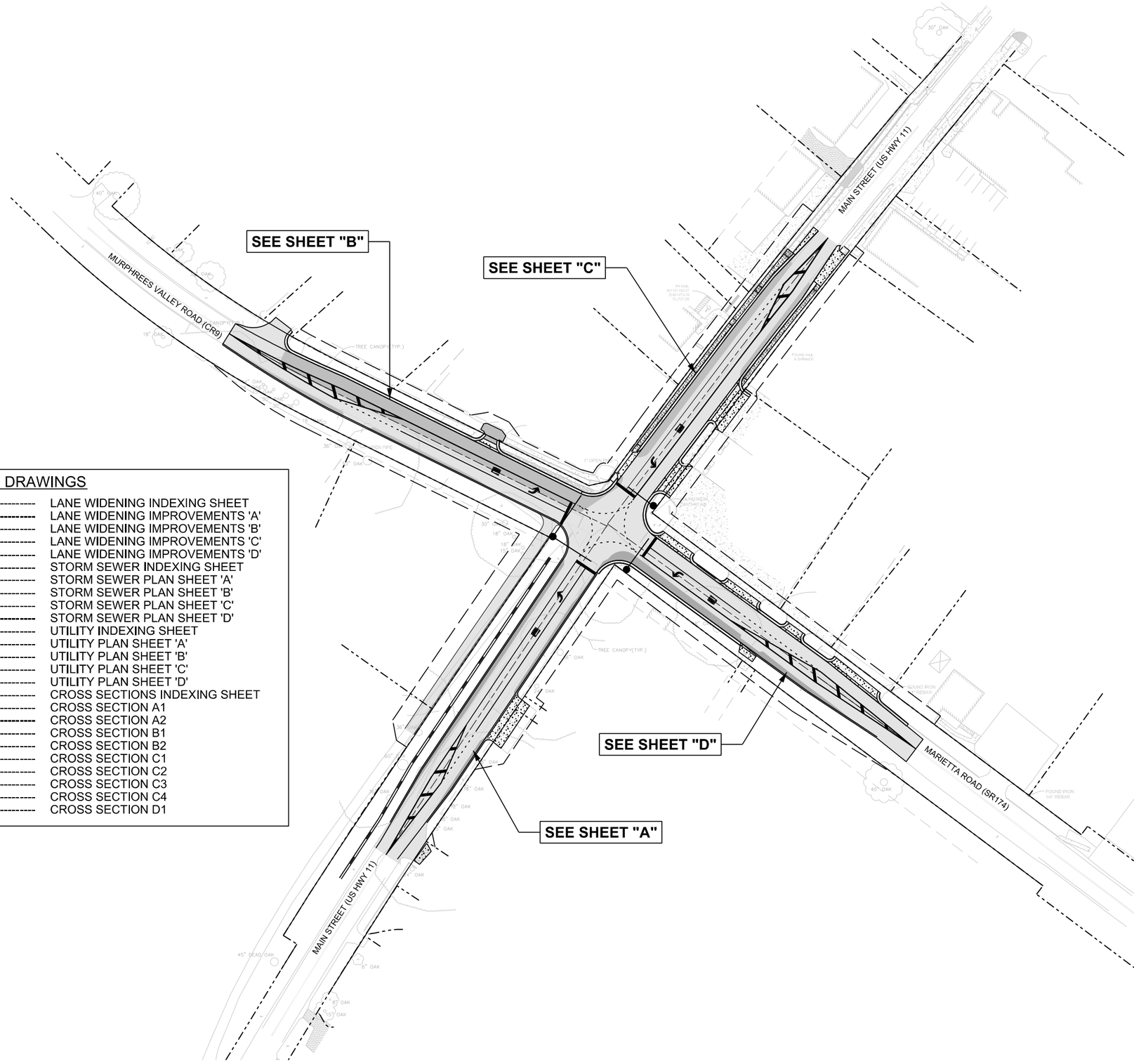
DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/14/2019	SPRG0005	PBR	ARH	1" = 100'

SHEET NO.

C0-R0

ALABAMA
ALBERT R. HUGHES JR.
No. 25186
PROFESSIONAL ENGINEER
ENGINEER OF RECORD
AL REG. NO. 25186
ALBERT R. HUGHES JR., P.E.

CCI PLANNING & ENGINEERING
3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com



INDEX OF DRAWINGS

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR. 08/30/19

ENGINEER OF RECORD
ALBERT R. HUGHES, JR., P.E.
AL REG. NO. 25166

LANE WIDENING INDEXING SHEET

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

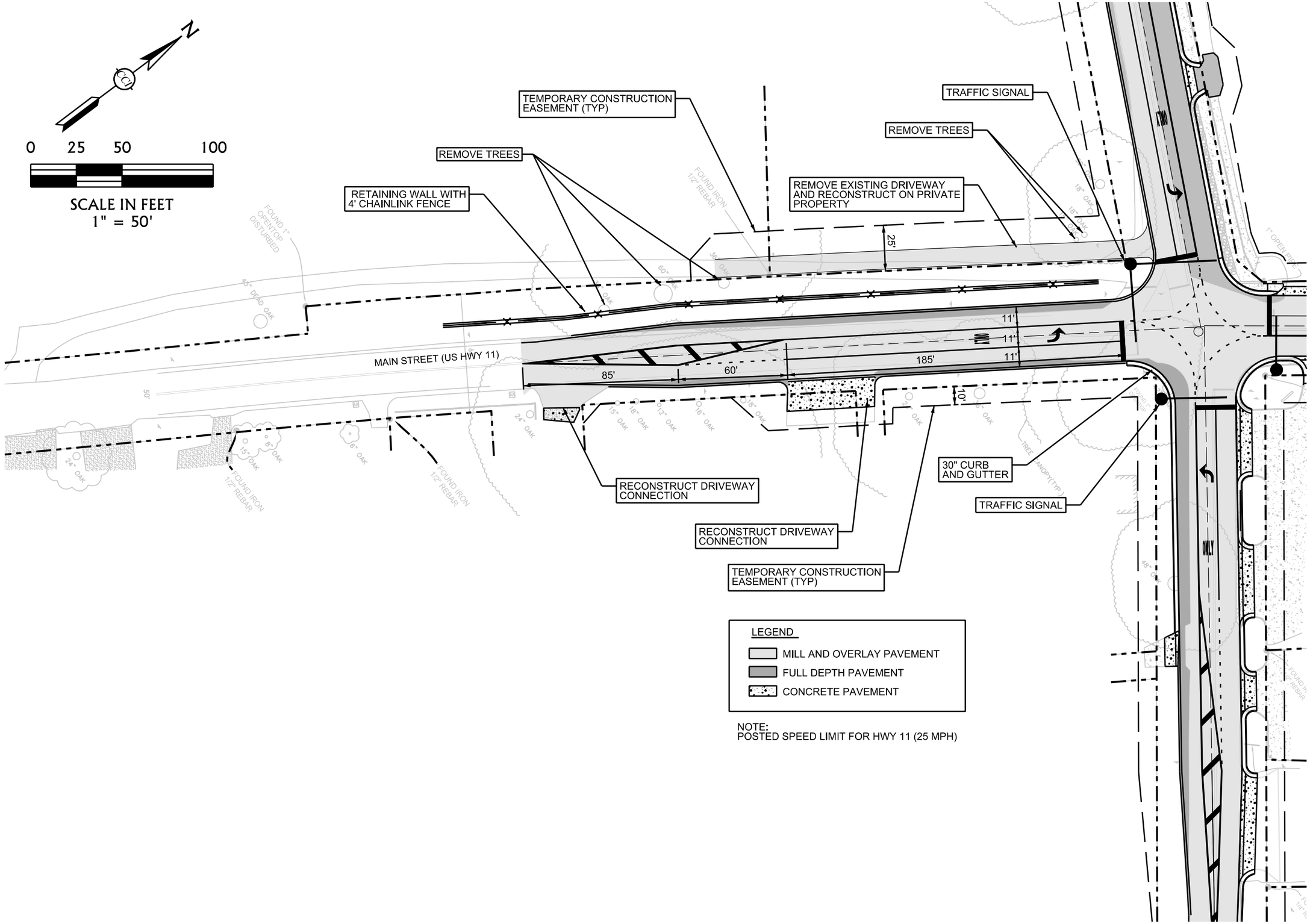
Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 100'

SHEET NO.

C1-R0

PRINTED: 8/23/2019 11:50:52 AM PATH= N:\Projects\SPRG0005\DGN\SPRG0005_11x17_LAYOUT_Overall.dgn



3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED 08/30/19 No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.

ENGINEER OF RECORD
ALBERT R. HUGHES, JR., P.E.
AL REG. NO. 25166

LANE WIDENING IMPROVEMENTS 'A'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

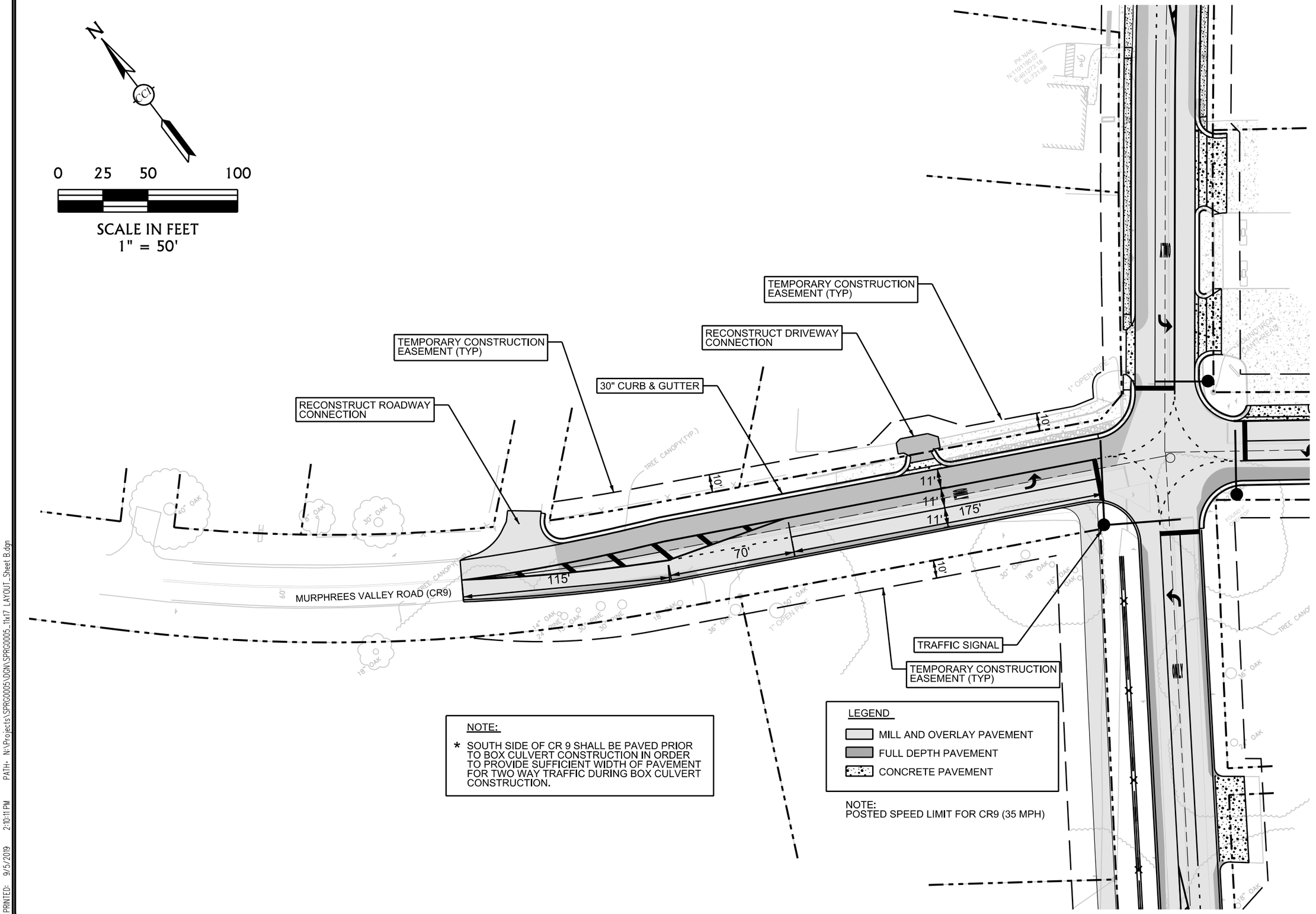
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

SHEET NO.

C1A-R0

PRINTED: 9/5/2019 2:09:13 PM PATH= N:\Projects\SPRG0005\DGN\SPRG0005_11x17_LAYOUT_Sheet A.dgn



3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED 08/30/19 No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.

ENGINEER OF RECORD
ALBERT R. HUGHES, JR. P.E.
AL REG. NO. 25166

LANE WIDENING IMPROVEMENTS 'B'

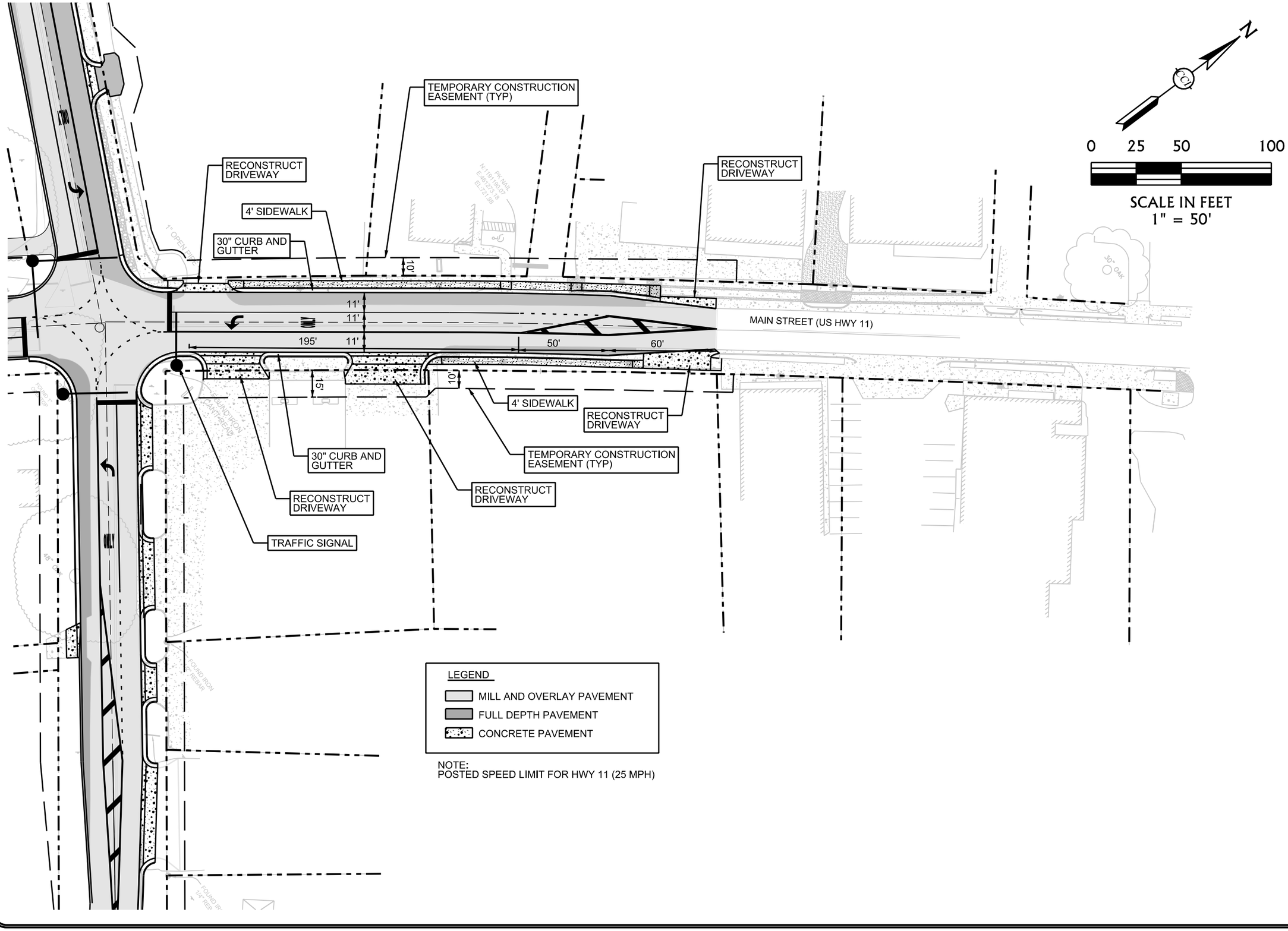
2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

SHEET NO.
C1B-R0

PRINTED: 9/5/2019 2:10:11 PM PATH= N:\Projects\SPRG0005\DGN\SPRG0005_11x17_LAYOUT_Sheet B.dgn



3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.
08-30-19

ENGINEER OF RECORD
ALBERT R. HUGHES, JR., P.E.
AL REG. NO. 25166

LANE WIDENING IMPROVEMENTS 'C'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

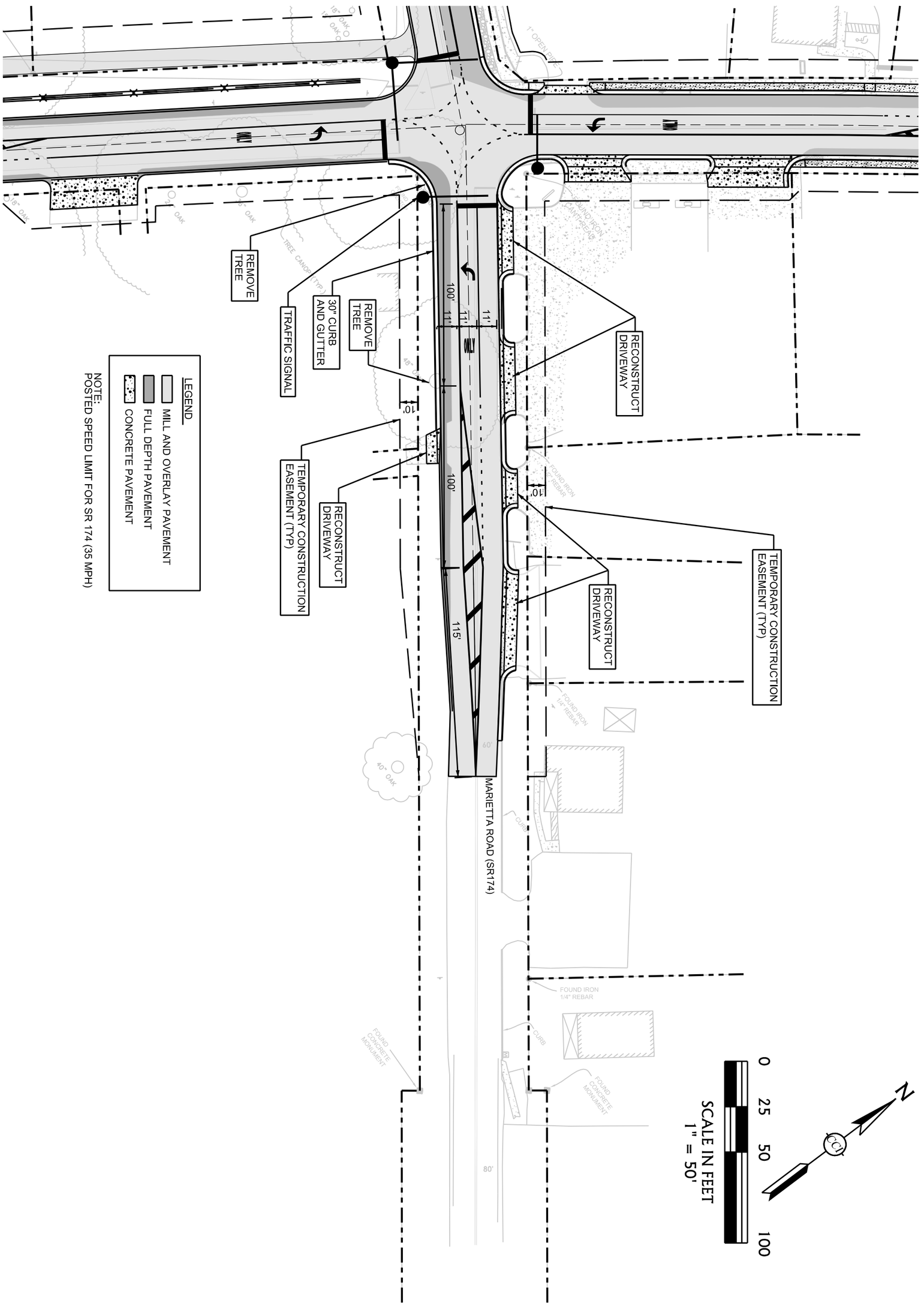
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

SHEET NO.

C1C-R0

PRINTED: 9/5/2019 2:10:50 PM PATH- N:\Projects\SPRG0005\DGN\SPRG0005_11x17_LAYOUT_Sheet C.dgn



LANE WIDENING IMPROVEMENTS 'D'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

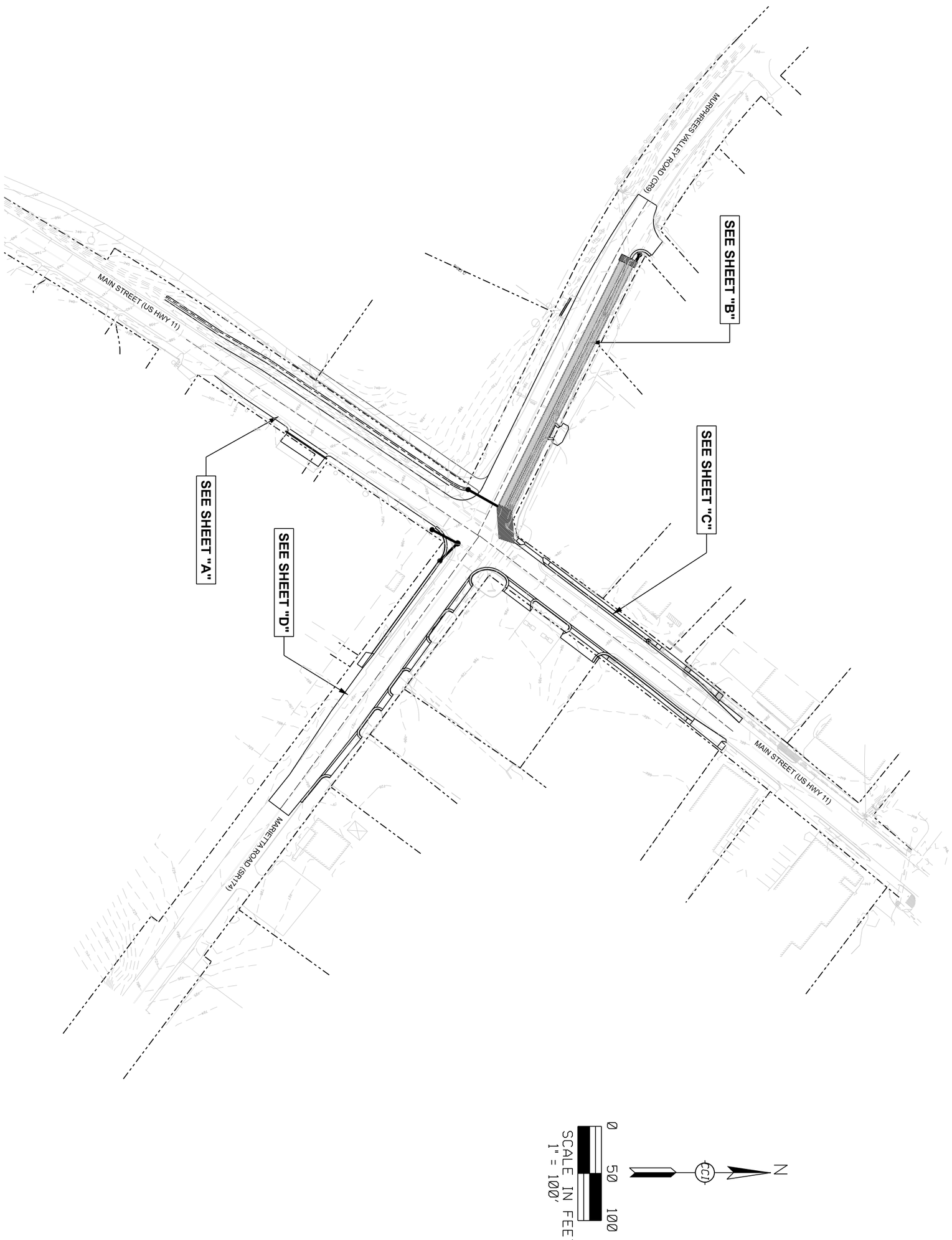
SHEET NO.: C1D-R0

ALABAMA LICENSED PROFESSIONAL ENGINEER No. 15100 ALBERT R. HUGHES, JR.

ENGINEER OF RECORD AL REG. NO. 25186 P.E.

CCI PLANNING & ENGINEERING
3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

PRINTED: $DATE$ $TIME$ PATH= $FILE$



SCALE IN FEET
1" = 100'
0 50 100

N

STORM SEWER INDEXING SHEET

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

City of Springville

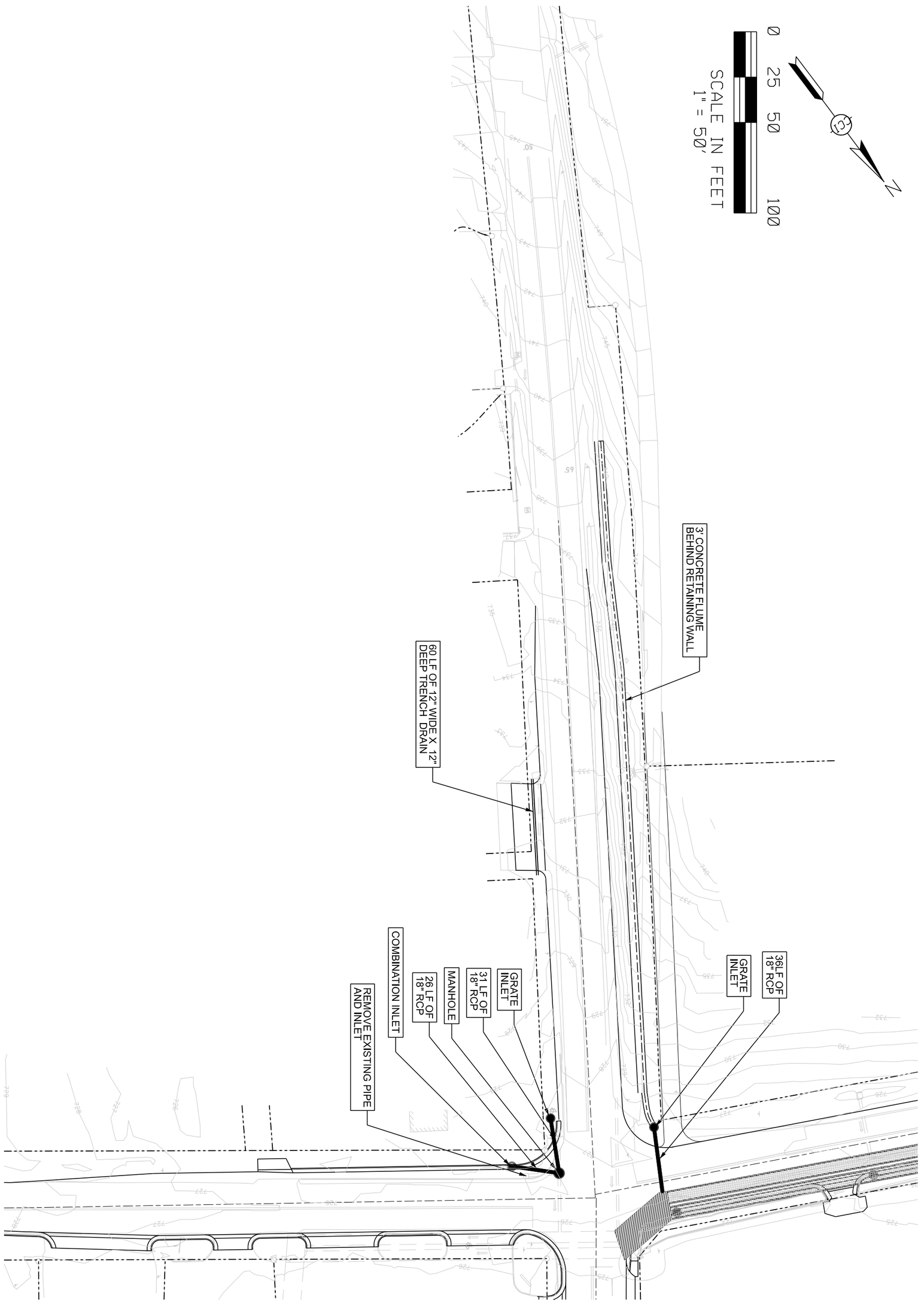
DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 100'

SHEET NO.
C2-R0

ALABAMA
ALBERT R. HUGHES, JR.
No. 25186
PROFESSIONAL ENGINEER
ENGINEER OF RECORD
AL REG. NO. 25186

CCI PLANNING & ENGINEERING
3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

PRINTED: $DATE$ $TIME$ PATH+ $FILE$



STORM SEWER PLAN SHEET 'A'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

City of Springville

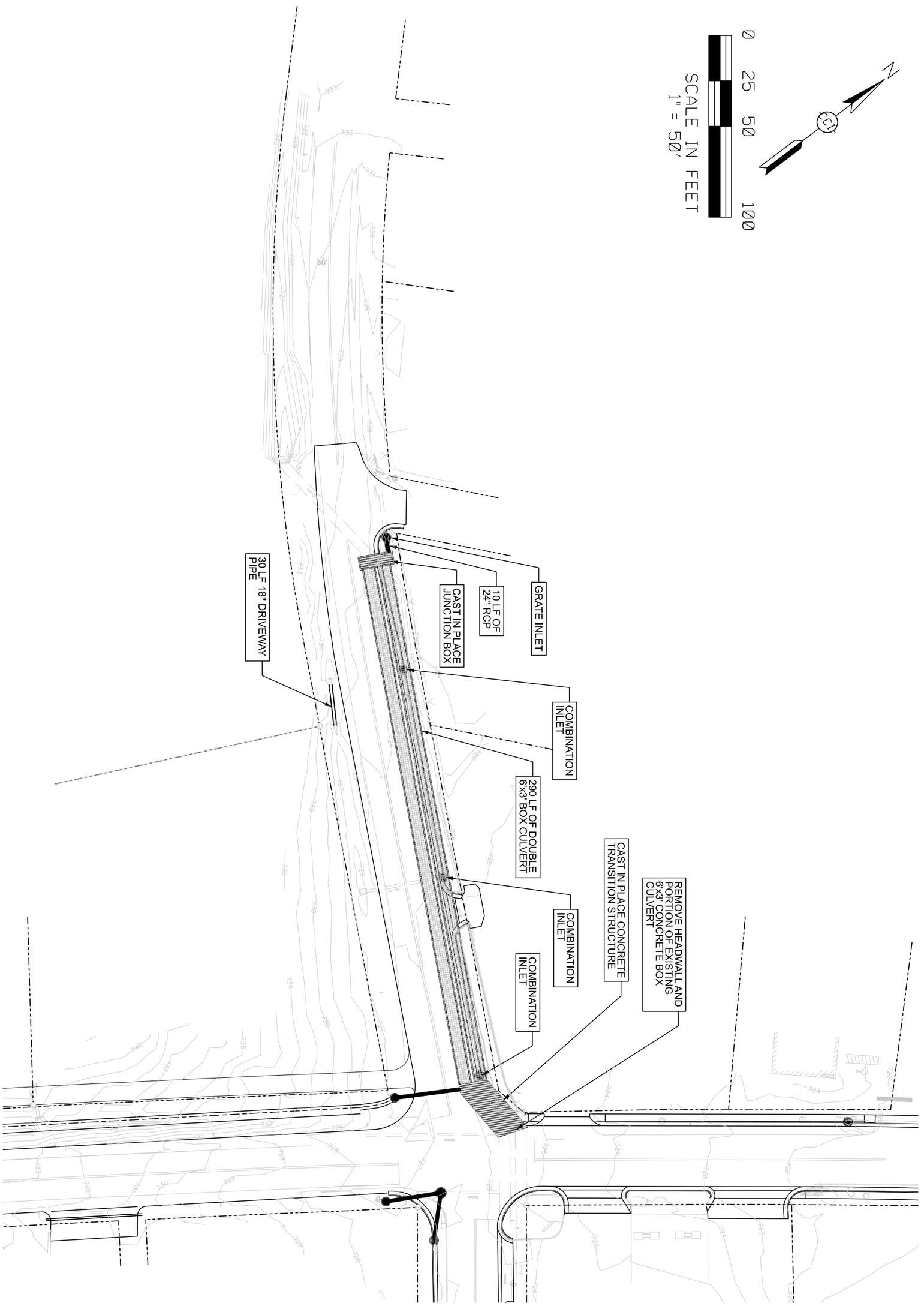
DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

SHEET NO.
C2A-R0

ALBERT R. HUGHES, JR. PROFESSIONAL ENGINEER ALABAMA No. 25186
ENGINEER OF RECORD
AL REG. NO. 25186

CCI PLANNING & ENGINEERING
3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

PRINTED: $DATE$ $TIME$ PATH+ $FILE$



STORM SEWER PLAN SHEET 'B'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

City of Springville

SHEET NO: C2B-R0

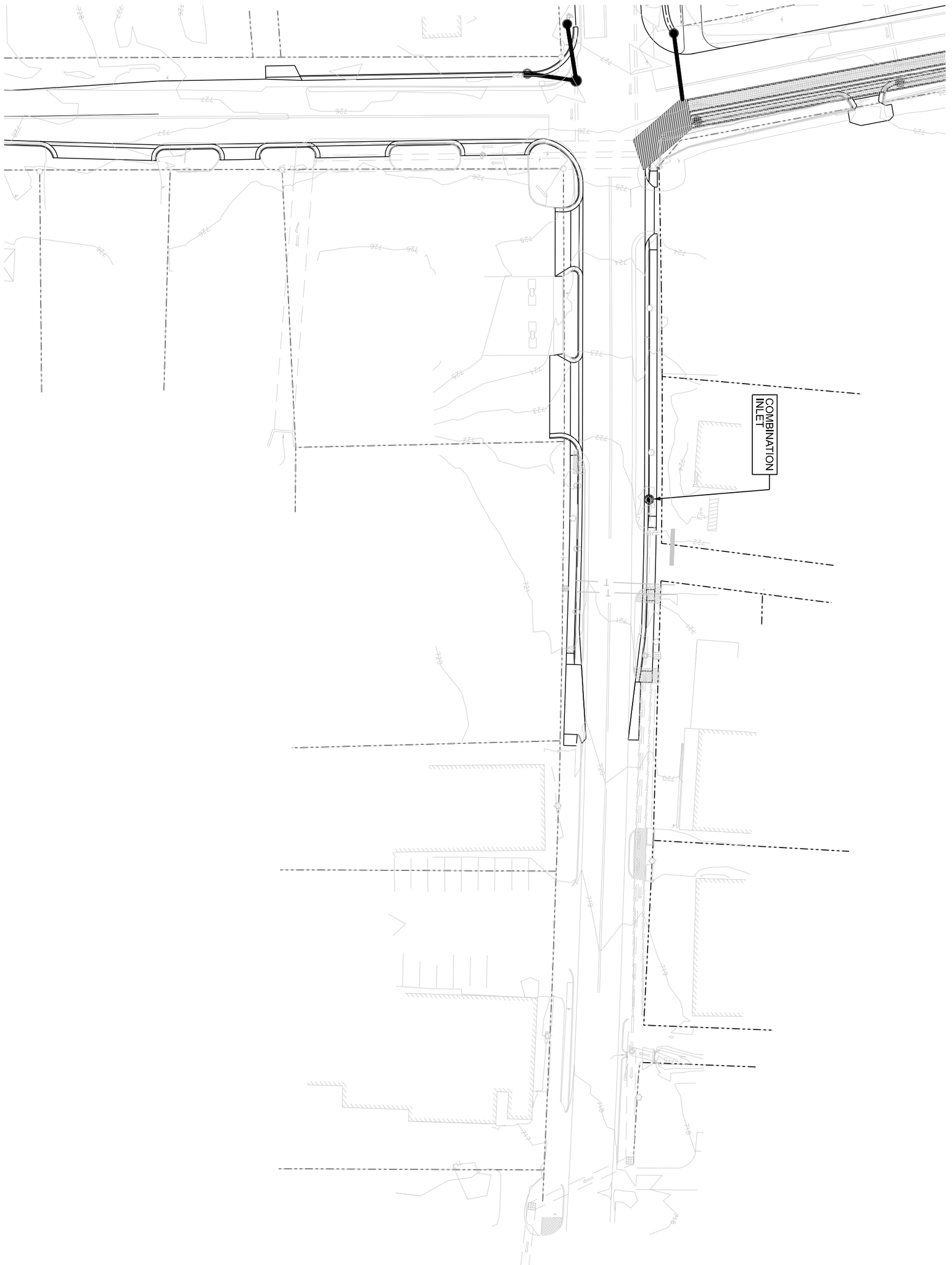
DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

ALABAMA LICENSED PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR. No. 25186

ENGINEER OF RECORD AL REG. NO. 25186

CCI PLANNING & ENGINEERING
3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

PRINTED: $DATE$ $TIME$ PATH+ $FILE$



STORM SEWER PLAN SHEET 'C'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

SHEET NO.

C2C-R0

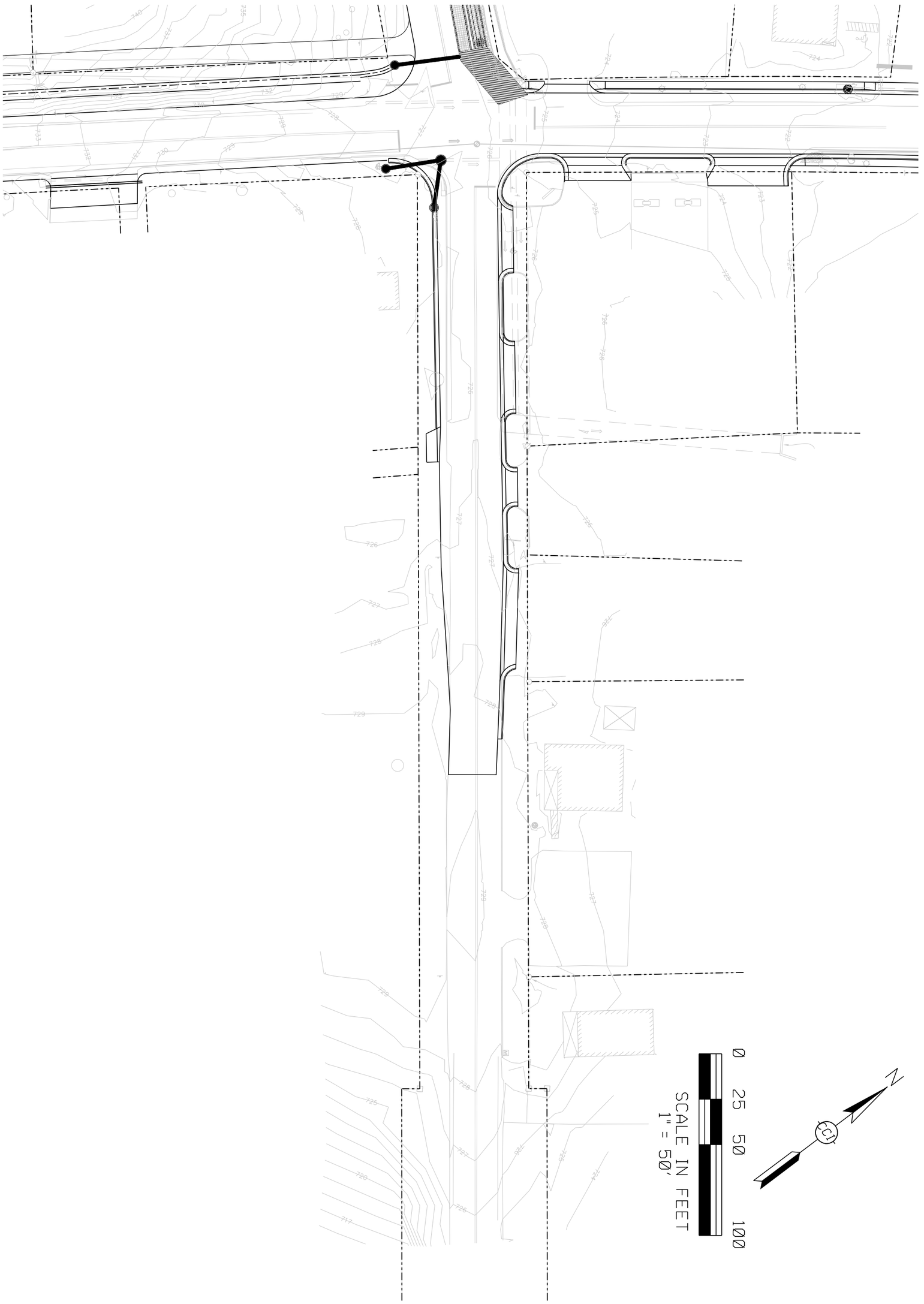
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 25186 ALBERT R. HUGHES, JR.

ENGINEER OF RECORD AL REG. NO. 25186

CCI PLANNING & ENGINEERING

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

PRINTED: $DATE$ $TIME$ PATH+ $FILE$



SHEET NO.
C2D-R0

STORM SEWER PLAN SHEET 'D'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

ALABAMA
ALBERT R. HUGHES, JR.
No. 25186
PROFESSIONAL ENGINEER
ENGINEER OF RECORD
AL REG. NO. 25186

CCI PLANNING & ENGINEERING
3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.

ENGINEER OF RECORD
ALBERT R. HUGHES, JR. P.E.
AL REG. NO. 25166

UTILITY INDEXING SHEET

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

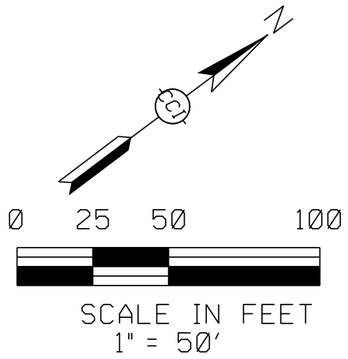
Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 100'

SHEET NO.

C3-R0

PRINTED: $DATE$ $TIME$ PATH- $FILE$



3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED 08/30/19 No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.

ENGINEER OF RECORD
ALBERT R. HUGHES, JR. P.E.
AL REG. NO. 25166

UTLITY PLAN SHEET 'A'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama
FOR
City of Springville

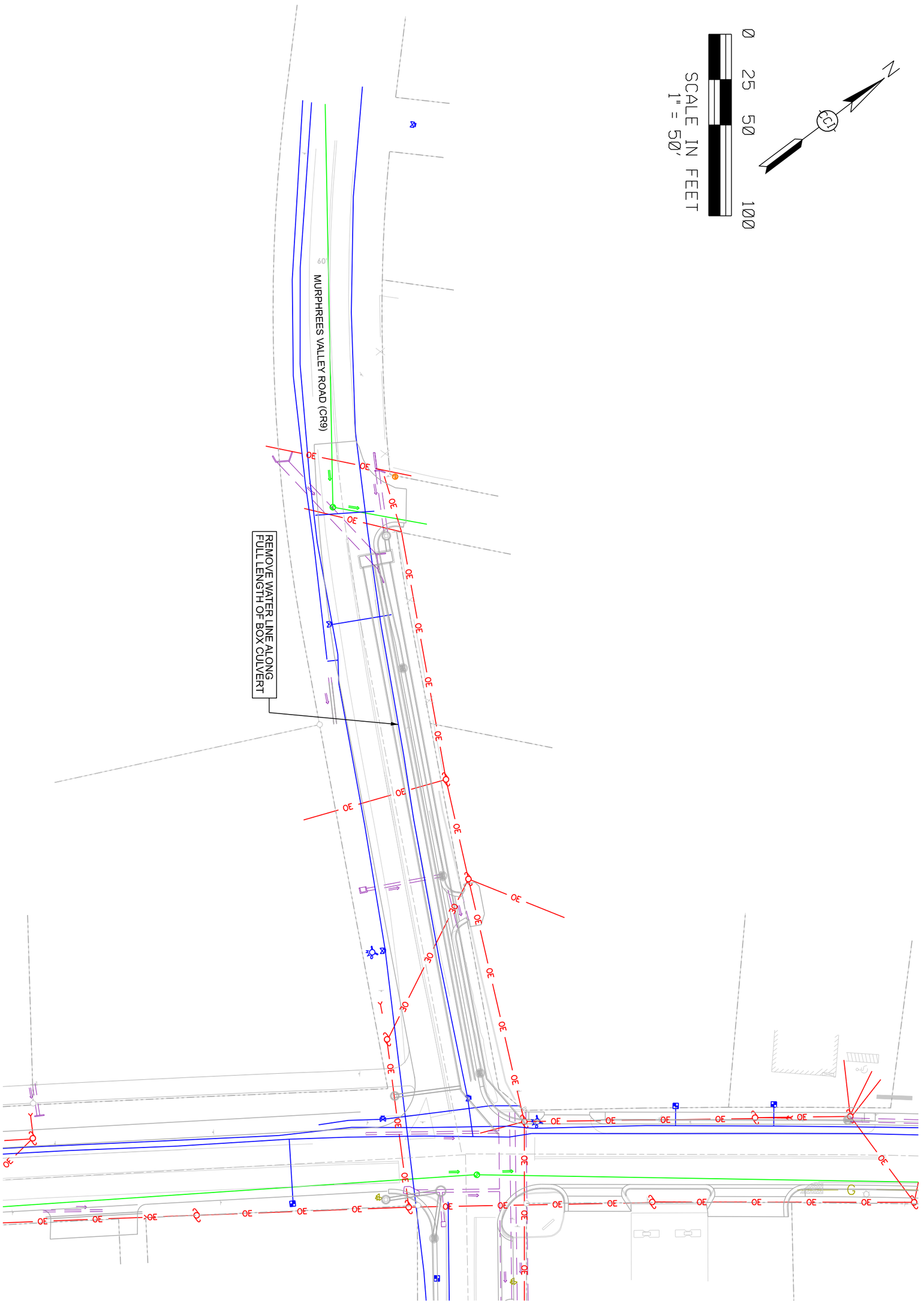
DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

SHEET NO.

C3A-R0

PRINTED: $DATE$ $TIME$ PATH= $FILE$

PRINTED: $DATE$ $TIME$ PATH+ $FILE$



UTILITY PLAN SHEET 'B'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

SHEET NO.
C3B-R0

ALBERT R. HUGHES JR.
ALABAMA
LICENSED
No. 25186
PROFESSIONAL
ENGINEER
ENGINEER OF RECORD
AL REG. NO. 25186

CCI PLANNING & ENGINEERING
3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

RELOCATE LIGHT POLE

RELOCATE POWER POLE

RELOCATE POWER POLE

RELOCATE POWER POLE

REMOVE FIRE HYDRANT

RELOCATE LIGHT POLE

MAIN STREET (US HWY 11)

RELOCATE LIGHT POLE

0 25 50 100

SCALE IN FEET
1" = 50'

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.

ENGINEER OF RECORD
ALBERT R. HUGHES, JR. P.E.
AL REG. NO. 25166

UTILITY PLAN SHEET 'C'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama
FOR
City of Springville

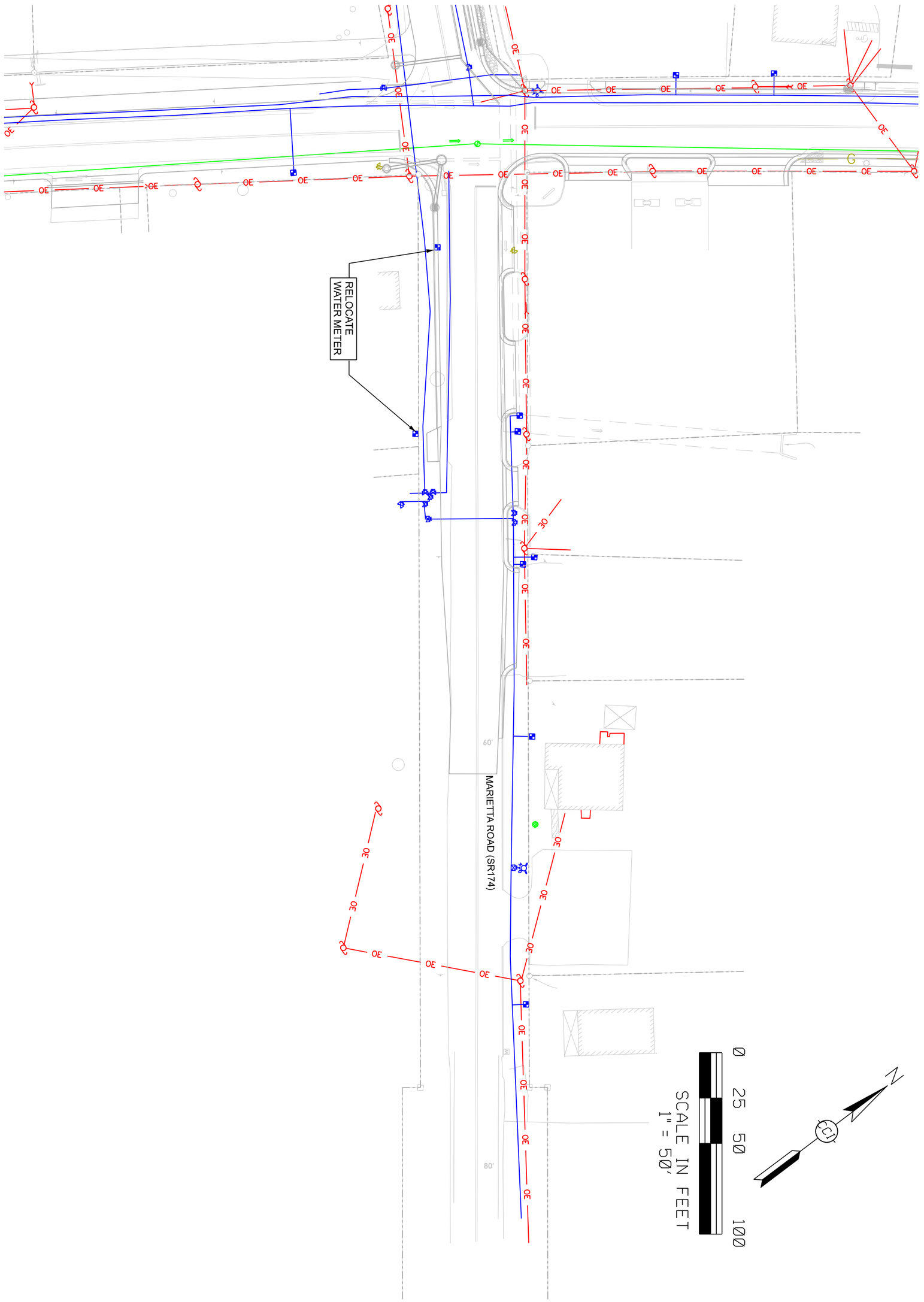
DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

SHEET NO.

C3C-R0

PRINTED: $DATE$ $TIME$ PATH- $FILE$

PRINTED: $DATE$ $TIME$ PATH+ $FILE$



UTILITY PLAN SHEET 'D'

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

City of Springville

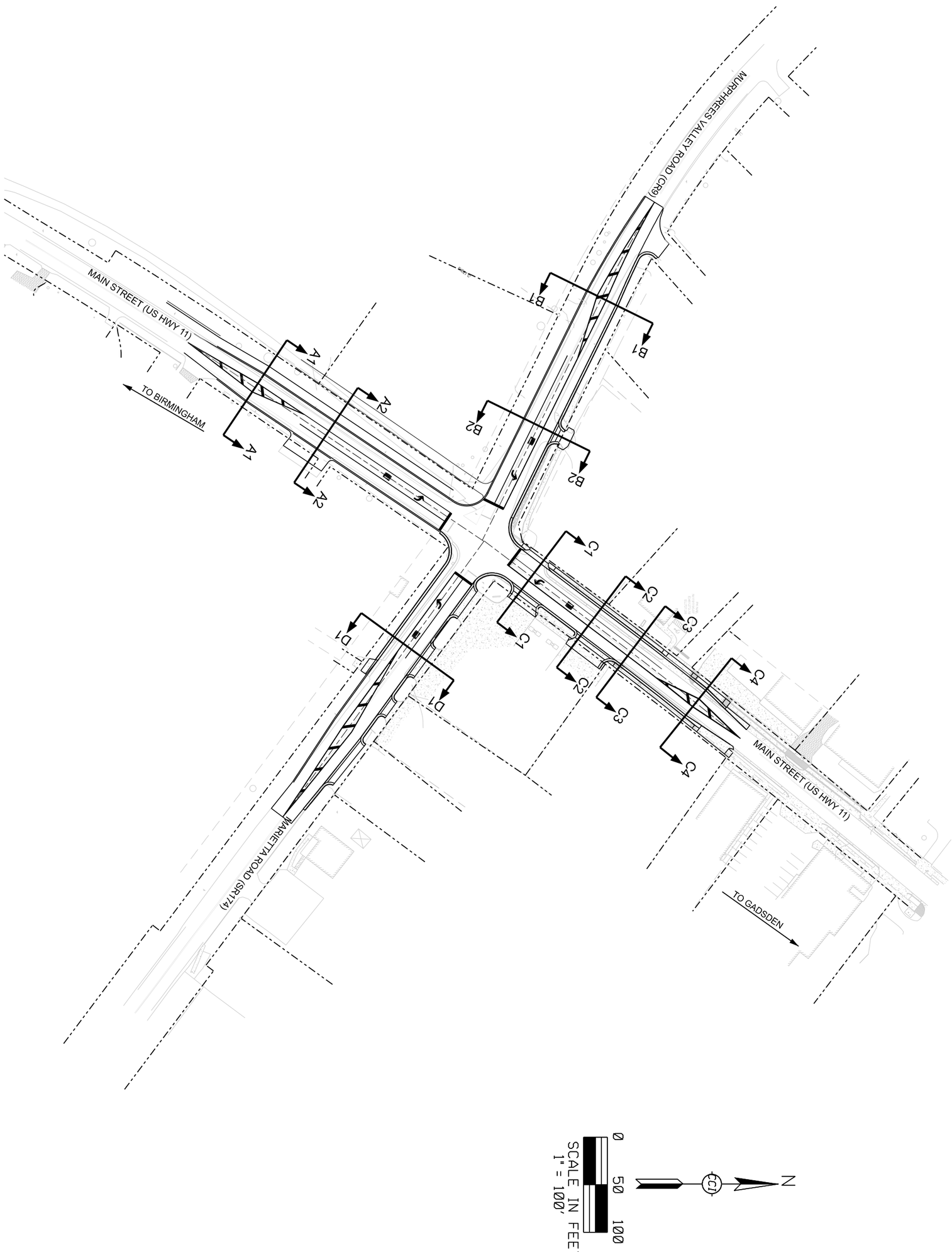
DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 50'

SHEET NO: C3D-R0

ALABAMA LICENSED PROFESSIONAL ENGINEER No. 25186 ALBERT R. HUGHES JR.
ENGINEER OF RECORD AL REG. NO. 25186

CCI PLANNING & ENGINEERING
3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

PRINTED: $DATE$ $TIME$ PATH+ $FILE$



CROSS SECTIONS INDEXING SHEET

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

City of Springville

SHEET NO: C4-R0

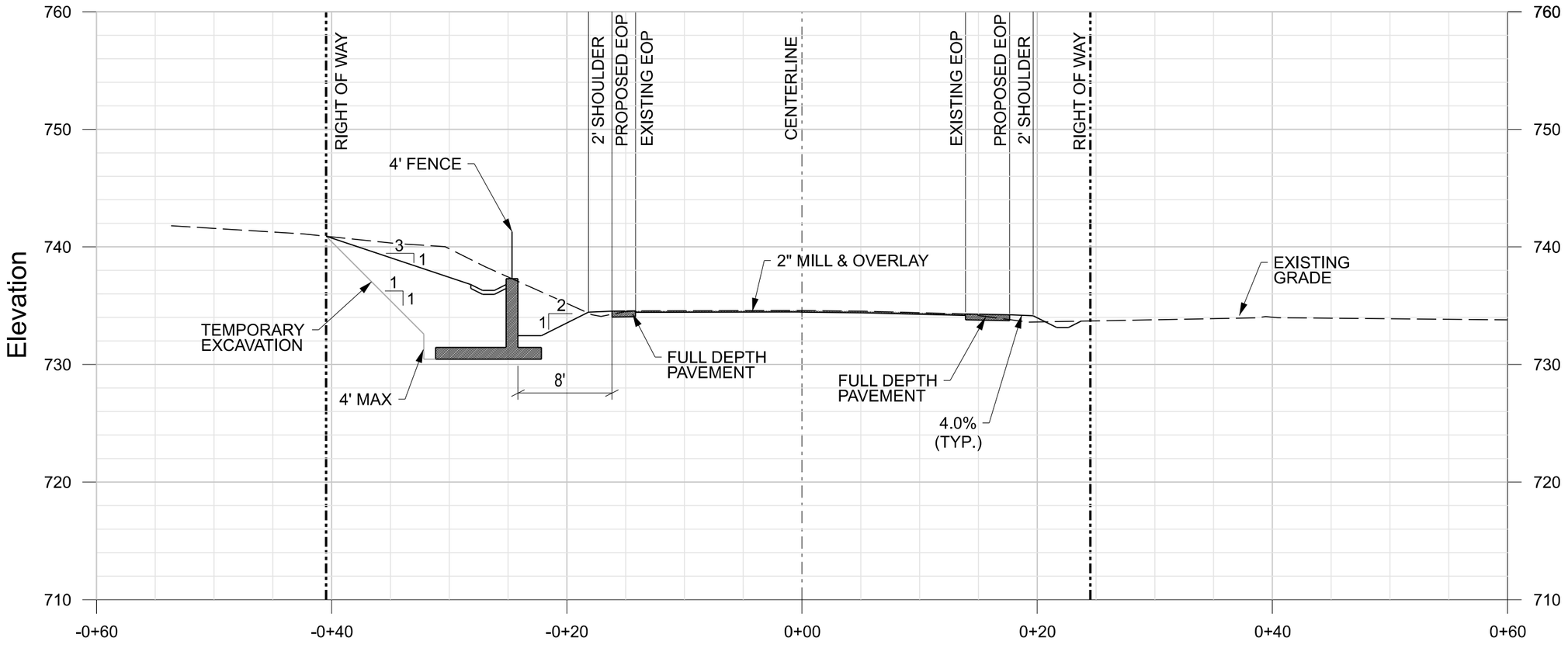
DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 100'

ALBERT R. HUGHES, JR. ENGINEER OF RECORD AL REG. NO. 25186 PE

ALABAMA LICENSED PROFESSIONAL ENGINEER No. 25186

CCI PLANNING & ENGINEERING

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com



SECTION A-1

VERTICAL SCALE: 1"=10'
HORIZONTAL SCALE: 1"=10'

LEGEND

PROPOSED GRADE

EXISTING GRADE

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR. 08-30-19

ENGINEER OF RECORD
ALBERT R. HUGHES, JR. P.E.
AL REG. NO. 25166

CROSS SECTION A1

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

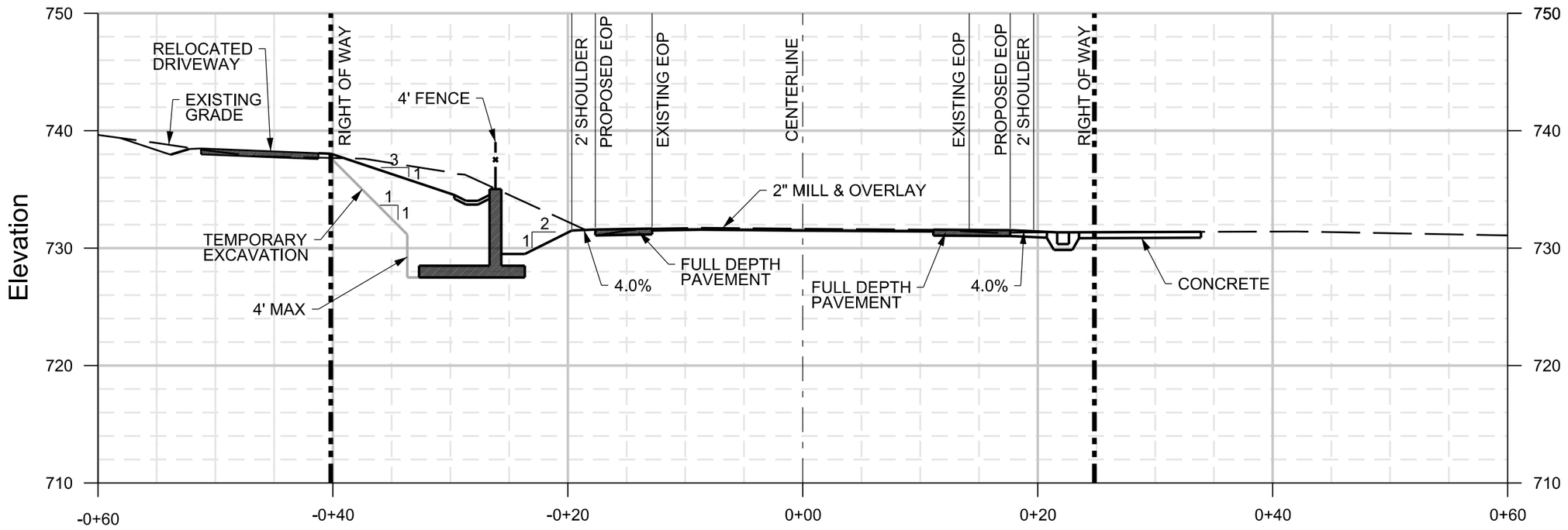
Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 10'

SHEET NO.

C4A1-R0

PRINTED: $DATE$ $TIME$ PATH: $FILE$



SECTION A-2

VERTICAL SCALE: 1"=10'
HORIZONTAL SCALE: 1"=10'

LEGEND

PROPOSED GRADE

EXISTING GRADE

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.
08-30-19

ENGINEER OF RECORD
ALBERT R. HUGHES, JR., P.E.
AL REG. NO. 25166

CROSS SECTION A2

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

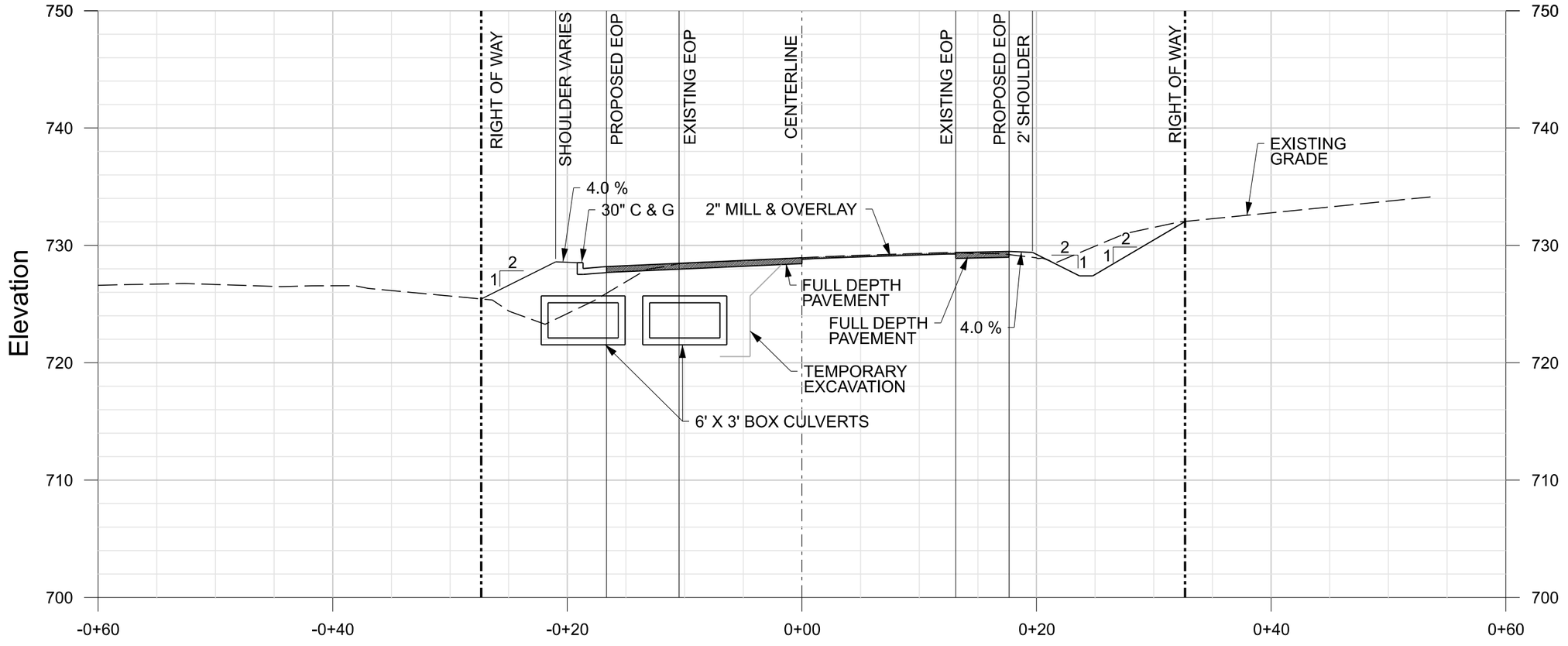
Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 10'

SHEET NO.

C4A2-R0

PRINTED: 9/5/2019 2:12:34 PM PATH= N:\Projects\SPRG0005\DGN\SPRG0005_11x17_XSECTIONS_A2.dgn



SECTION B-1

VERTICAL SCALE: 1"=10'
HORIZONTAL SCALE: 1"=10'

LEGEND

PROPOSED GRADE

EXISTING GRADE

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.
08-30-19

ENGINEER OF RECORD
ALBERT R. HUGHES, JR. P.E.
AL REG. NO. 25166

CROSS SECTION B1

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

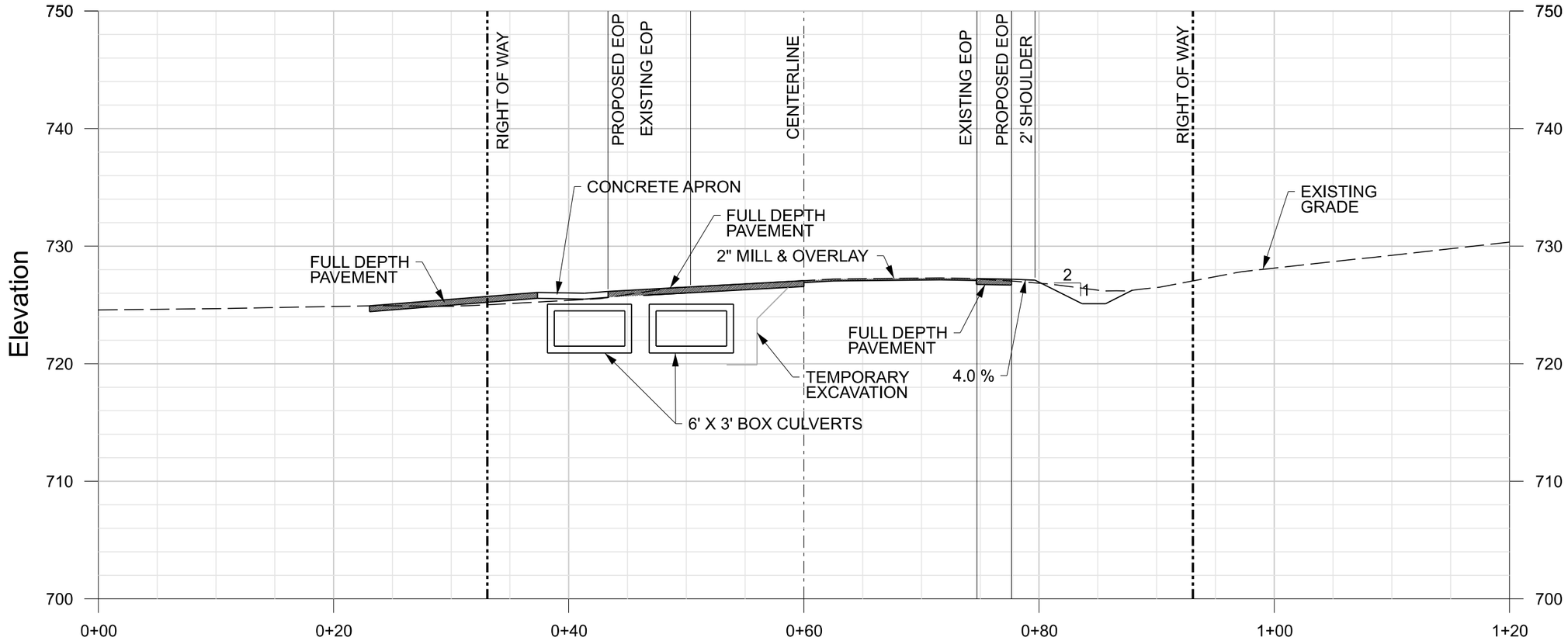
Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 10'

SHEET NO.

C4B1-R0

PRINTED: $DATE$ $TIME$ PATH= $FILE$



SECTION B-2

VERTICAL SCALE: 1"=10'
HORIZONTAL SCALE: 1"=10'

LEGEND

PROPOSED GRADE

EXISTING GRADE

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.
08-30-19

ENGINEER OF RECORD
ALBERT R. HUGHES, JR., P.E.
AL REG. NO. 25166

CROSS SECTION B2

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

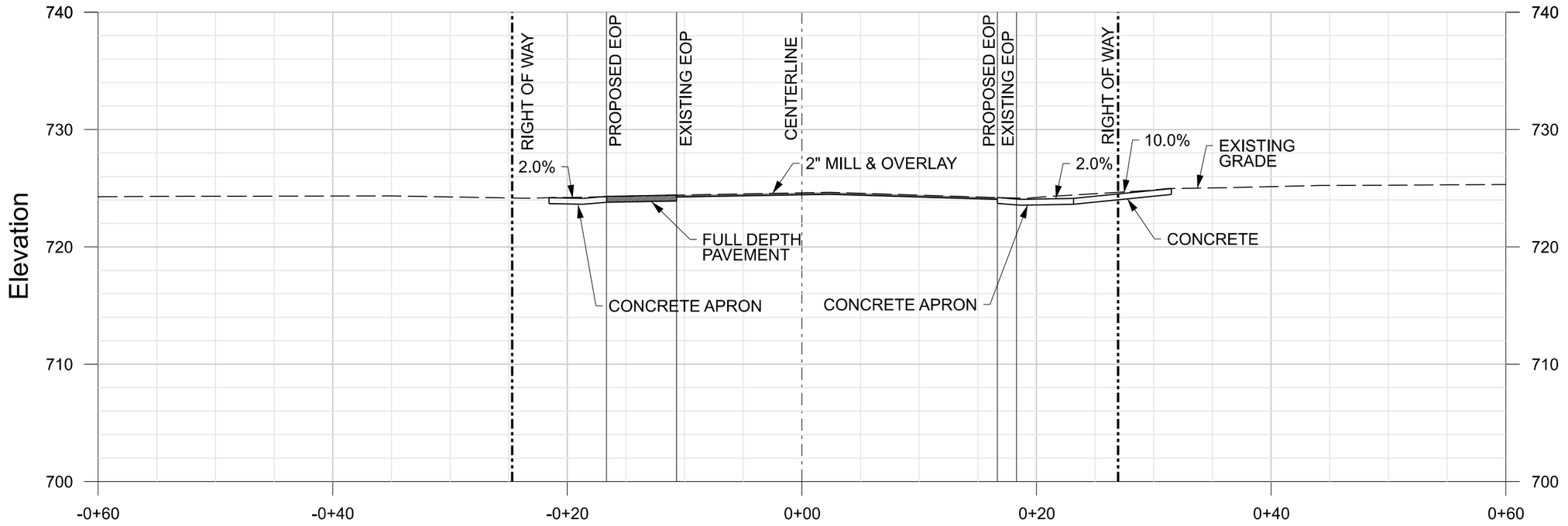
Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 10'

SHEET NO.

C4B2-R0

PRINTED: $DATE$ $TIME$ PATH= $FILE$



SECTION C-1

VERTICAL SCALE: 1"=10'
HORIZONTAL SCALE: 1"=10'

LEGEND

PROPOSED GRADE

EXISTING GRADE

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.
08-12-19

ENGINEER OF RECORD
ALBERT R. HUGHES, JR., P.E.
AL REG. NO. 25166

CROSS SECTION C1

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

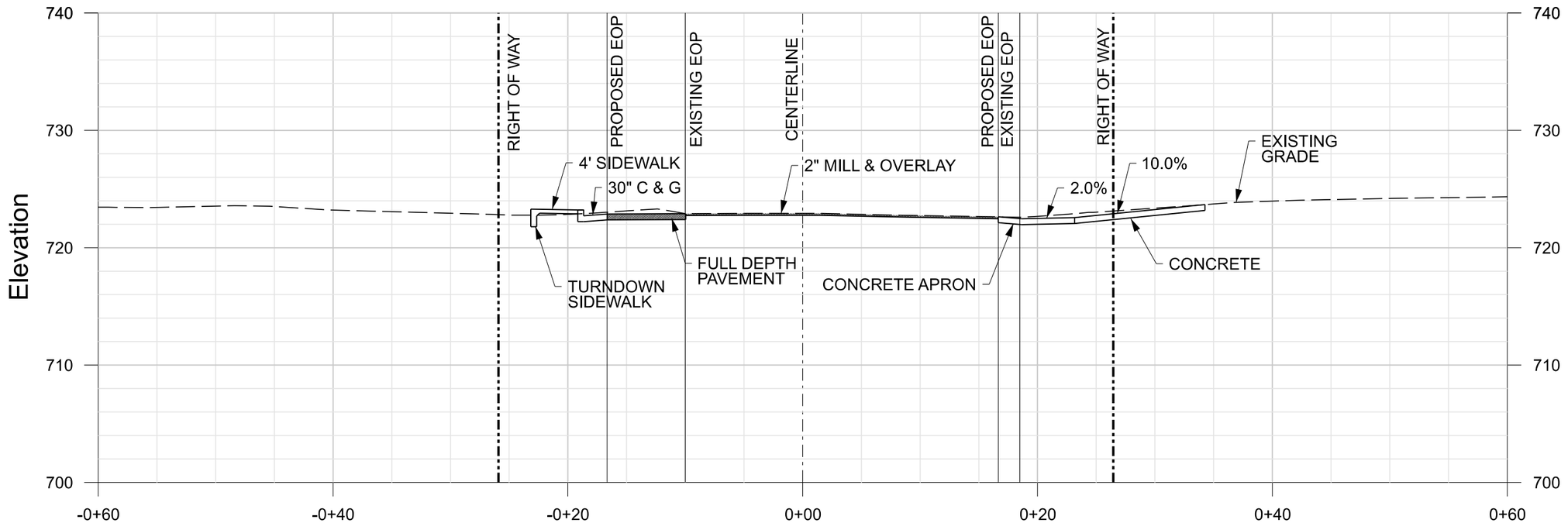
Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 10'

SHEET NO.

C4C1-R0

PRINTED: $DATE$ $TIME$ PATH= $FILE$



SECTION C-2

VERTICAL SCALE: 1"=10'
HORIZONTAL SCALE: 1"=10'

LEGEND

PROPOSED GRADE

EXISTING GRADE

PRINTED: $DATE$ $TIME$ PATH= $FILE$

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.

ENGINEER OF RECORD
ALBERT R. HUGHES, JR. P.E.
AL REG. NO. 25166

CROSS SECTION C2

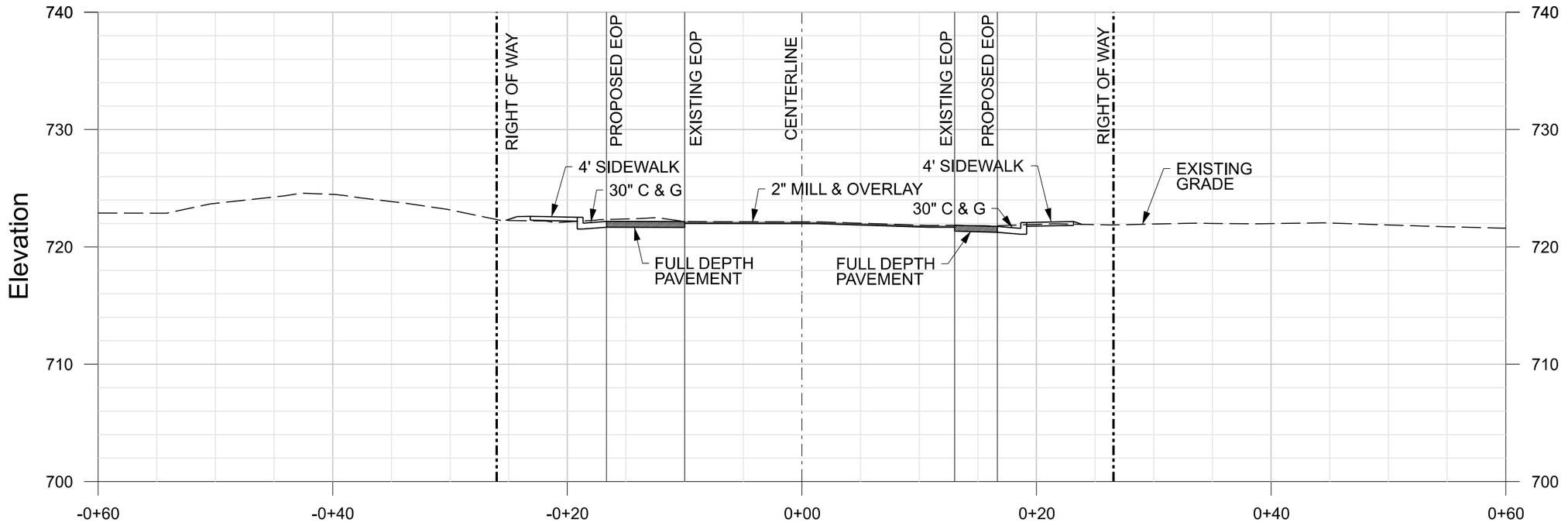
2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 10'

SHEET NO.

C4C2-R0



SECTION C-3

VERTICAL SCALE: 1"=10'
HORIZONTAL SCALE: 1"=10'

LEGEND

PROPOSED GRADE

EXISTING GRADE

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.

ENGINEER OF RECORD
ALBERT R. HUGHES, JR., P.E.
AL REG. NO. 25166

CROSS SECTION C3

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama

FOR

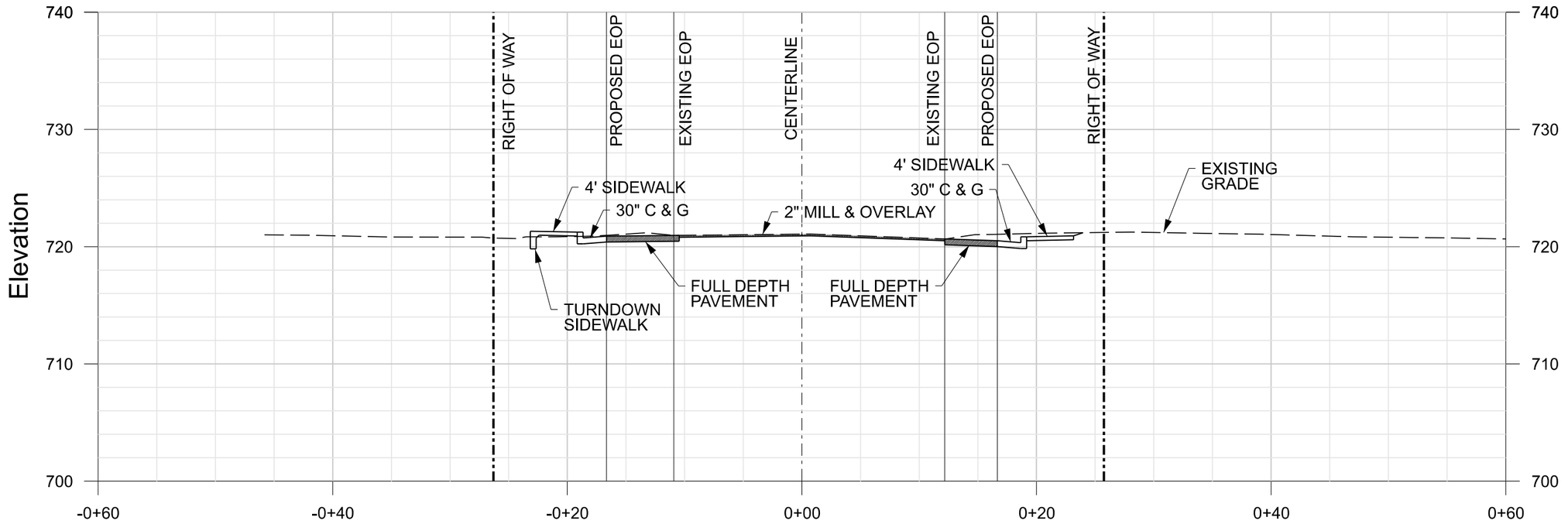
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 10'

SHEET NO.

C4C3-R0

PRINTED: $DATE$ $TIME$ PATH= $FILE$



SECTION C-4

VERTICAL SCALE: 1"=10'
HORIZONTAL SCALE: 1"=10'

LEGEND

PROPOSED GRADE

EXISTING GRADE

PRINTED: $DATE$ $TIME$ PATH= $FILE$

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.

ENGINEER OF RECORD
ALBERT R. HUGHES, JR., P.E.
AL REG. NO. 25166

CROSS SECTION C4

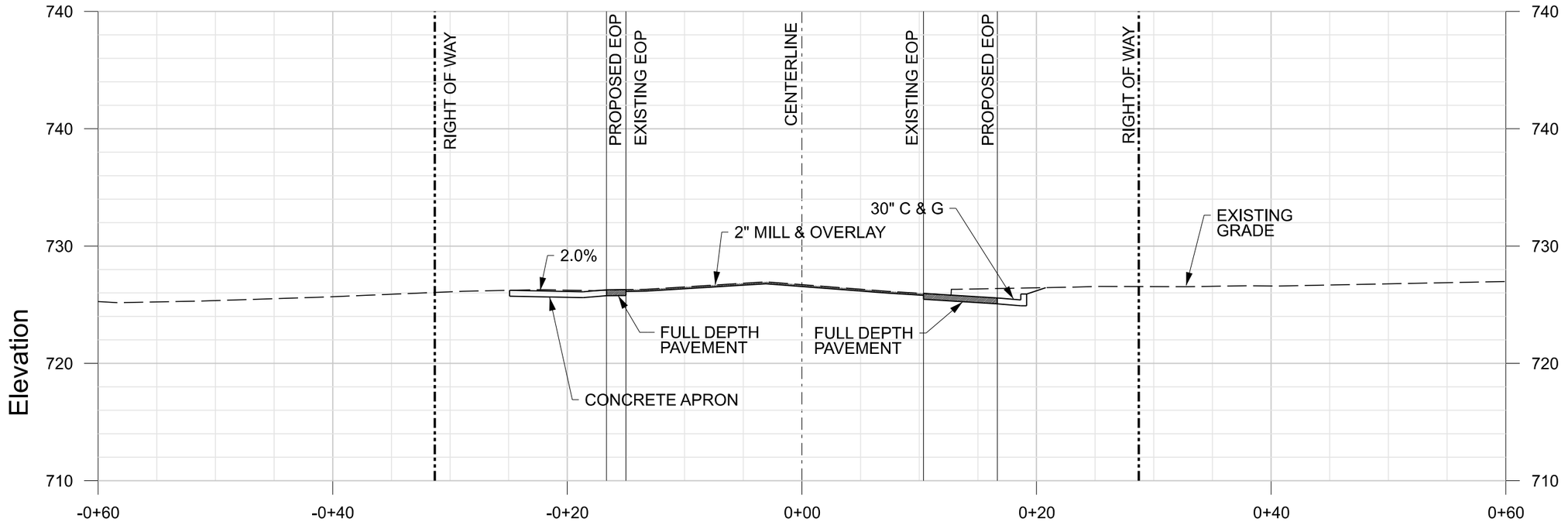
2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 10'

SHEET NO.

C4C4-R0



SECTION D-1

VERTICAL SCALE: 1"=10'
HORIZONTAL SCALE: 1"=10'

LEGEND

PROPOSED GRADE

EXISTING GRADE

PRINTED: $DATE$ $TIME$ PATH= $FILE$

3528 Vann Road
Suite 105
Birmingham, AL 35235
Phone: (205) 655-1991
www.ccipe.com

CCI PLANNING & ENGINEERING

ALABAMA LICENSED No. 25166 PROFESSIONAL ENGINEER ALBERT R. HUGHES, JR.

ENGINEER OF RECORD
ALBERT R. HUGHES, JR. P.E.
AL REG. NO. 25166

CROSS SECTION D1

2020 ATRIP II - APPLICATION (US HWY 11 AT SR 174 & CR9)

Springville, Alabama
FOR
City of Springville

DATE:	PROJECT NO:	DRAWN BY:	CHECKED BY:	SCALE:
08/30/2019	SPRG0005	PBR	ARH	1" = 10'

SHEET NO.

C4D1-R0

2020 ATRIP II APPLICATION
US HIGHWAY 11 AT
STATE ROUTE 174 & COUNTY ROAD 9
SPRINGVILLE, ALABAMA

ALDOT Pay Item #	Item Description	Unit	Quantity	Unit Price	Cost	Non Reimb. Utility Cost
206	Miscellaneous Demolition (curbs, foundations, asphalt pavement, etc.)	LS	1	$50,000.00	$50,000.00	$0.00
206	Tree Removal (36" to 60" Dia.), and Haul Off	EA	7	$10,000.00	$70,000.00	$0.00
641*	Water Main Removal	LF	320	$10.00	$0.00	$3,200.00
650	Topsoil Stripping, Loading, Transporting, Stockpiling, Final Placing or Haul off	CY	840	$28.00	$23,520.00	$0.00
210	Remove/Haul Off Excavated Materail at Retaining Wall	CY	800	$40.00	$32,000.00	$0.00
210	Retaining Wall Excavation and Backfill	CY	800	$20.00	$16,000.00	$0.00
210	Soil Excavation, Placement, Aerating, Moisture Conditioning, Compacting	CY	3	$30.00	$90.00	$0.00
210	Removal of Unsuitable Material and Replacement with Compacted Aggregate (10% of area, 8 inches deep)	CY	215	$80.00	$17,200.00	$0.00
665	12" Diameter Compost Wattle Sediment Barrier	LF	1,800	$12.00	$21,600.00	$0.00
665	Inlet Protection - Prefabricated Pop Up Filter, or Silt Fence Filter	EA	7	$2,500.00	$17,500.00	$0.00
665	Class II Rip Rap Ditch Check	EA	7	$3,500.00	$24,500.00	$0.00
665	Temporary Seeding	AC	1.0	$3,000.00	$3,000.00	$0.00
665	Permanent Seeding	AC	1.0	$3,000.00	$3,000.00	$0.00
665	NPDES Maintenance and Permit Compliance During Construction	MO	12	$5,000.00	$60,000.00	$0.00
529	Cast in Place Concrete Retaining Wall- Average 5' High	SF	1,800	$125.00	$225,000.00	$0.00
634	Chain Link Fence Above Retaining Wall - 4' High	LF	360	$16.00	$5,760.00	$0.00
614	3' Wide Concrete Drainage Swale Behind Retaining Wall	SF	1,140	$15.00	$17,100.00	$0.00
539	12" Wide X 12" Deep Cast in Place Concrete Trench Drain for Driveway Crossing	LF	60	$200.00	$12,000.00	$0.00
530	18" Class III RCP (4' to 8' deep), 6" Bedding and backfill to be ALDOT #57 Stone	LF	130	$120.00	$15,600.00	$0.00
530	24" Class III RCP (4' to 8' deep), 6" Bedding and backfill to be ALDOT #57 Stone	LF	10	$130.00	$1,300.00	$0.00
524	6'x3' Precast Concrete Box Culvert, 6" Bedding and backfill to be ALDOT #57 Stone	LF	580	$850.00	$493,000.00	$0.00
621	Cast in Place Junction Box for 6'x3' Box Culverts - Upstream End	EA	1	$25,000.00	$25,000.00	$0.00
621	Cast in Place Junction Transistion Strucutre 6'x3' Box Culverts - Downstream End	EA	1	$40,000.00	$40,000.00	$0.00
621	Precast Grate Inlet - 4' Dia. Structure @ 4'-6' deep.	EA	2	$6,500.00	$13,000.00	$0.00
621	Precast Combination Inlet - 4' Dia. Structure @ 4'-6' deep.	EA	5	$6,500.00	$32,500.00	$0.00
621	Precast Manhole with Cast Iron Frame and Solid Lid - 4' Dia. Structure @ 4' to 6' deep.	EA	1	$6,500.00	$6,500.00	$0.00
641*	Relocate Water Meter	EA	2	$4,200.00	$0.00	$8,400.00
641*	Water Main Lowering	LF	60	$100.00	$0.00	$6,000.00
622*	Reset Sanitary Sewer Lid	EA	1	$1,500.00	$0.00	$1,500.00
640*	Relocate Solar Panel/Pole	EA	1	$4,500.00	$0.00	$4,500.00
640*	Relocate Overhead Power Pole & Rerun Wire - APCO	LS	1	$15,000.00	$0.00	$15,000.00
640*	Relocate Overhead Communications - Windstream	LS	1	$8,000.00	$0.00	$8,000.00
640*	Relocate Overhead Cable TV - Charter	LS	1	$5,000.00	$0.00	$5,000.00
646*	Relocate Light Pole	EA	2	$4,500.00	$0.00	$9,000.00
646*	Gas Main Relocation - Spire	LS	1	$140,000.00	$0.00	$140,000.00
301	Final Clipping and Grading to Finish Subgrade, Subgrade Repair and Reconditioning	SY	1,375	$24.00	$33,000.00	$0.00
301	12-inch Crushed Aggregate Base Course, ALDOT Type 825-B, Plant Mixed, 12-inch Compacted In Place Thickness,	SY	1,375	$25.00	$34,375.00	$0.00
424	440 Lb / SY Asphalt Binder Layer, ALDOT 424 - Type B Mix, 3/4 - inch Maximum Aggregate Size, ESAL Range A/B	SY	1,375	$25.00	$34,375.00	$0.00

424	220 Lb / SY Asphalt Wearing Surface Layer, ALDOT 424 - Type A Mix, 1/2 - inch Maximum Aggregate Size, ESAL Range A/B	SY	1,375	$20.00	$27,500.00	$0.00	
405	Tack Coat	SY	1,375	$6.00	$8,250.00	$0.00	
408	Mill Existing Asphalt 2-inch deep, Haul Off Millings	SY	4,150	$4.00	$16,600.00	$0.00	
405	Tack Coat **for Milled Surface**	SY	4,150	$6.00	$24,900.00	$0.00	
424	220 Lb / SY Asphalt Wearing Surface Layer, Type A Mix, 1/2 - inch Maximum Aggregate Size, ESAL Range A/B **for Milled Surface**	SY	4,150	$17.00	$70,550.00	$0.00	
623	30" Concrete Curb & Gutter, Unreinforced 4,000 PSI Portland Cement Concrete, Tooled or Sawn Contraction Joints at 10' O.C.	LF	1,180	$113.00	$133,340.00	$0.00	
618	Sidewalks - 4-inch Unreinforced 4,000 PSI Portland Cement Concrete, Tooled or Sawn Contraction Joints at 5' O.C.	SF	1,480	$12.00	$17,760.00	$0.00	
424	Remove, Grade and Reconstruct Existing Driveway Along US11 to Reconnect to CR9 - 10' Wide	SY	275	$55.00	$15,125.00	$0.00	
450	Reconstruct Driveway to Connect to New Road Alignment	SY	400	$80.00	$32,000.00	$0.00	
701/703/705	Traffic Striping/Markings/Legends and Delineators	LS	1	$32,000.00	$32,000.00	$0.00	
711	Regulatory Signage - Remove and Dispose	EA	4	$500.00	$2,000.00	$0.00	
711	Regulatory Signage - Remove and Reset	EA	13	$2,500.00	$32,500.00	$0.00	
209	Remove and Reset Mail Boxes	EA	5	$1,000.00	$5,000.00	$0.00	
730	Traffic Signal	EA	1	$165,000.00	$165,000.00	$0.00	
740	Temporary Traffic Control	LS	1	$100,000.00	$100,000.00	$0.00	**GRAND TOTALS**
	SUBTOTAL CONSTRUCTION COSTS				**$2,009,445.00**	**$200,600.00**	**$2,210,045.00**
	Contingency (15%)				$301,416.75	$30,090.00	$331,506.75
	SUBTOTAL CONSTRUCTION COSTS				**$2,310,861.75**	**$230,690.00**	**$2,541,551.75**
	Engineering Controls (1.3%)				$30,041.20	$0.00	$30,041.20
	Mobilization (9.7%)				$224,153.59	$0.00	$224,153.59
	Construction Engineering & Inspection (15%)				$346,629.26	$0.00	$346,629.26
	TOTAL CONSTRUCTION COSTS				**$2,911,685.81**	**$230,690.00**	**$3,142,375.81**
	Preliminary Engineering (15%)				$436,752.87	$0.00	$436,752.87
	Right of Way Allowance				$50,000.00	$0.00	$50,000.00
	TOTAL COSTS				**$3,398,438.68**	**$230,690.00**	**$3,629,128.68**

* Non Reimbursable Utility Relocation Item

PROPOSED FUNDING

Work Phase	Estimate	ATRIP II Funds	Local Funds
Preliminary Engineering	$436,752.87	$0.00	$436,752.87
Non Reimbursable Utility Relocations	$230,690.00	$0.00	$230,690.00
Right of Way Acquisition	$50,000.00	$0.00	$50,000.00
Construction	$ 2,565,056.54	$2,000,000.00	$565,056.54
Engineering and Inspection	$346,629.26	$0.00	$346,629.26
TOTAL	**$3,629,128.68**	**$ 2,000,000.00**	**$1,629,128.68**